

# 1998-99 Winter Fuels Outlook

## Introduction

Nearly two-thirds of all households in the United States rely upon natural gas, distillate fuel oil, or propane as their main heating fuel. In general, the status of these fuels as the winter heating season approaches is encouraging for consumers; supplies are ample, and prices are relatively low despite some upward pressure in September due in part to hurricane activity in the Gulf of Mexico and coastal areas. But this is not to say that the markets for these fuels are immune to atypical tightening during the coming winter, particularly if the back-to-back *El Niño/La Niña* weather patterns result in an unusually cold winter season. Alternatively, an unusually mild winter season would have the likely effect of driving down the already low prices of the winter fuels.

This article presents an analysis of demand, supply and prices of natural gas, heating oil and propane in the coming winter heating season (defined as October 1, 1998 through March 31, 1999). Primary emphasis is on the base case forecast, which assumes normal winter weather. Two alternative weather scenarios, reflecting a severe winter and a mild winter, are also addressed. Projections for the base case and the two alternative weather scenarios, along with historical data for last winter, are shown in Table WF01.

As of the beginning of the approaching winter season, the base case forecast shows that:

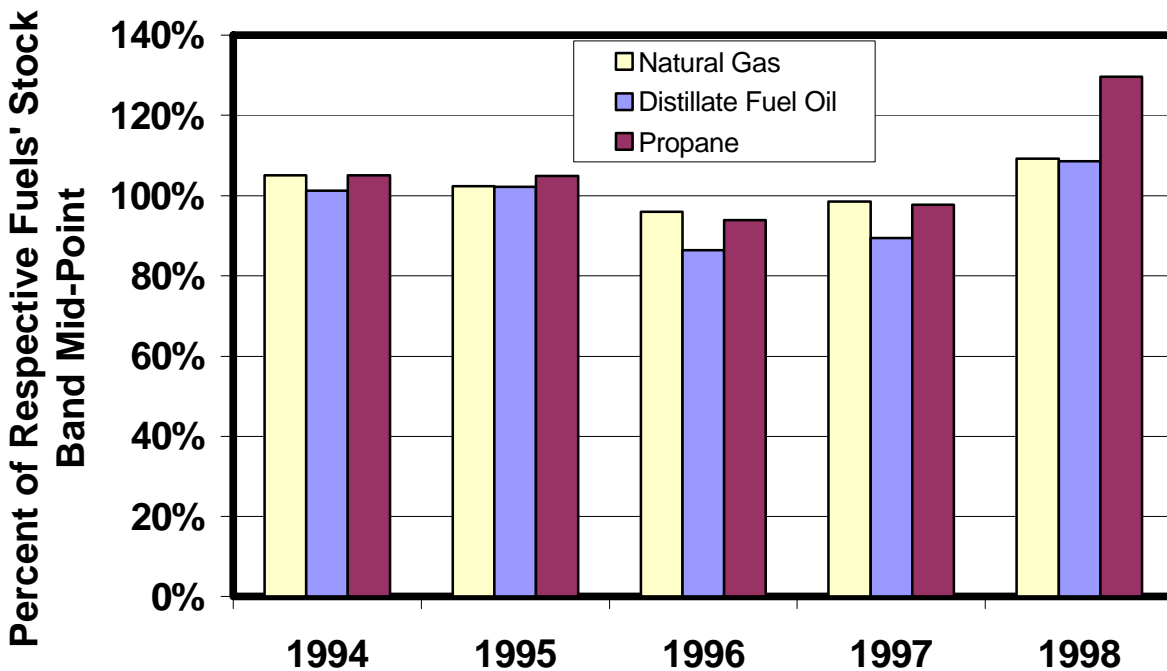
- Stocks of natural gas, distillate fuel oil and propane are unusually robust (Figure 1). Relative to the stock bands (3-year average inventory levels) of the Energy Information Administration's *Weekly Petroleum Status Report*,<sup>1</sup> natural gas and distillate fuel stocks on September 30, 1998 are 9 percent above average, and propane stocks are a surprising 30 percent above average. The high pre-season heating fuel inventories are in marked contrast to the relatively low pre-season inventory levels of the two prior years.
- Demand for all three winter heating fuels is expected to be generally higher than demand last winter, due to the assumption of normal weather relative to last year's milder weather.
- Prices for distillate and propane are expected to be lower than they were last winter, down by 5 and 3 percent, respectively. This is due to the lower world

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<sup>1</sup> See *Weekly Petroleum Status Report* (DOE/EIA-0208), Appendix A, "Interpretation and Derivation of Average Inventory Levels".

oil prices, along with the high stock levels. Natural gas wellhead prices are expected to be lower in fourth quarter 1998 than they were in the fourth quarter of 1997. However, they are expected to be higher in the first quarter of 1999 than year-ago, due to the very substantial expected increase in demand associated with normal weather assumptions.

**Figure 1. Heating Fuel Stocks at Beginning of Heating Season (Sept. 30)**

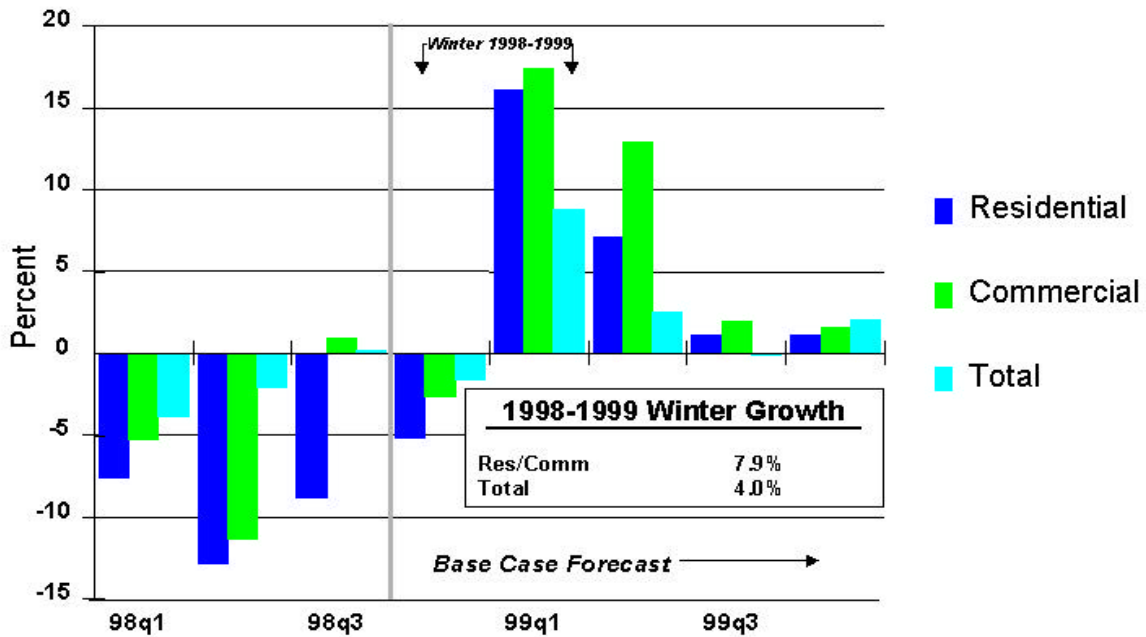


## Natural Gas

### Normal Winter Weather Brings Increased Demand

Total demand for natural gas is expected to be much higher this winter, averaging about 70.5 billion cubic feet (Bcf) per day. This would be an increase of about 4 percent compared to last year's daily average of 67.9 Bcf per day. Much of this increase is related to assumptions of a return to more normal weather patterns, as milder weather last year resulted in gas-weighted heating degree-days that were nearly 7-percent lower than normal. As a result, consumption in the seasonal markets, residential and commercial, is expected to increase more than 7 percent and 9 percent, respectively (Figure 2).

**Figure 2. U. S. Natural Gas Demand (Percent Change from Year Ago)**



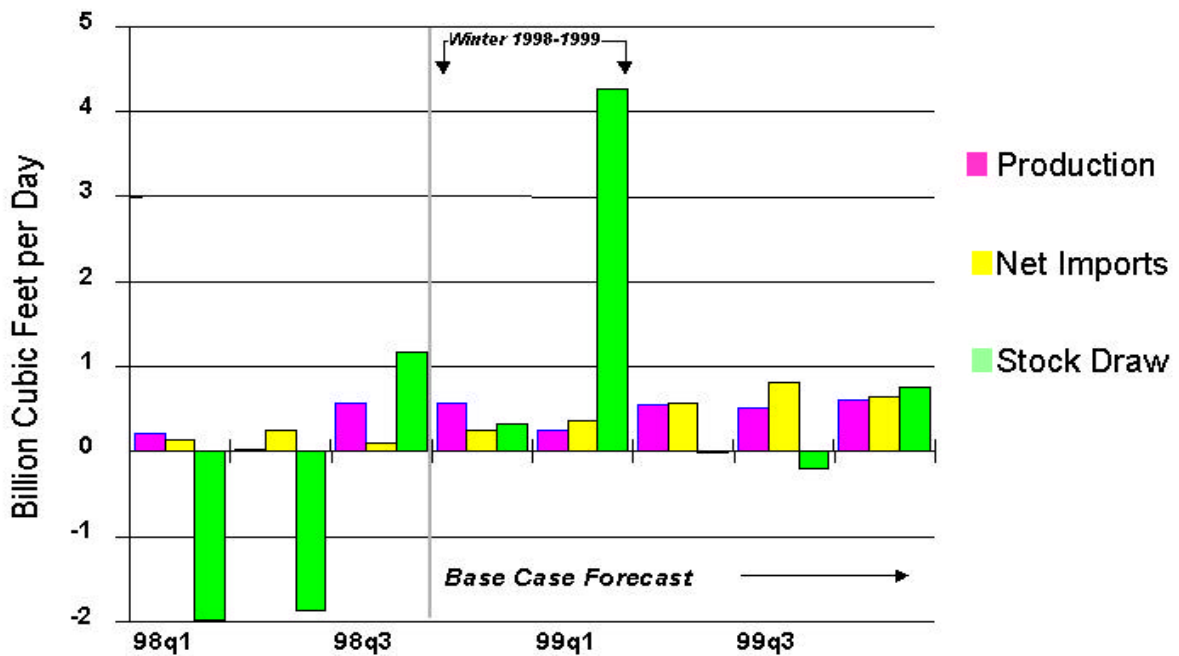
### Supplies Are Ample

With storage levels high and substantial wellhead productive capacity, natural gas supplies are anticipated to be adequate to meet demand under normal weather conditions. Domestic gas production is expected to average almost 52.8 Bcf per day during the heating season, up about 0.8 percent over last winter's production. Last year, during the unseasonably warm temperatures in January and February, when heating degree-days were more than 20 percent lower than normal, U.S. production still averaged above 52 Bcf per day. With more than 550 drilling rigs dedicated to gas exploration, the potential for an increase in U.S. production during the coming year is always present. This is the third consecutive year in which the majority of drilling rigs operating in the U.S. was dedicated to gas exploration. In August 1998, 70 percent of a total 792 drilling rigs in operation were in pursuit primarily of natural gas.

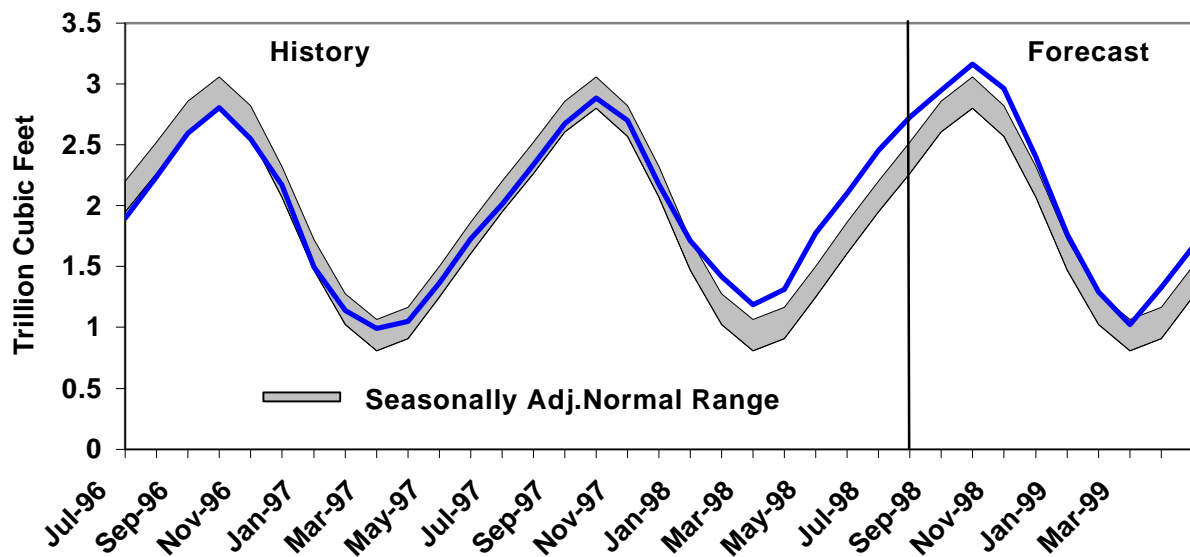
Underground natural gas storage plays a critical role in meeting increased demand during the winter months. In many areas of the country, storage provides the key resource that allows the local gas distributing company to increase supply in peak demand periods. Due to the past summer's ample supply situation and relatively soft prices, there has been a generally robust rate of storage refill leading up to the beginning of this winter. Overall underground storage levels are estimated to have been 7,282 Bcf at the end of September. (Gas storage doesn't actually peak until sometime in October.) Of this, 4,338 Bcf are needed to maintain reservoir pressure and are not available for withdrawal.

Thus, the remaining 2,944 Bcf of working gas storage are available to be drawn as needed (Figure 4). The lowest level that working gas has been drawn down to over the past two decades was 758 billion cubic feet in March 1996. The level of working gas on hand at the end of September was 272 Bcf greater than at the same time last year (2,944 Bcf versus 2,672) and is projected to be more than 3,100 Bcf at the end of October--the highest level since 1992. During this heating season, storage withdrawals are expected to be significantly higher than last year's to meet the additional demand, averaging 10.6 Bcf per day compared to last year's average of 8.2 billion cubic feet per day. With the greater reliance on storage this winter, working gas on hand at the end of March is projected to be over 1,000 Bcf, noticeably below the 1,184 Bcf of working gas remaining at the end of the 1997/98 heating season, but still well above the observed minimum.

**Figure 3. Components of Natural Gas Supply (Change from Year Ago)**



**Figure 4. Working Gas in Storage**



Natural gas imports from Canada, which supply more than 12 percent of total U.S. consumption, are expected to average 8.5 Bcf per day compared to last year's 8.2 Bcf per day. During the winter months, net imports usually increase to full pipeline capacity levels and are about 10 percent higher than flows during the rest of the year. Pipeline import capacity, which has been generally stable for the last few years, should increase at the end of this year as three construction projects are scheduled to be completed in November and December. These projects are designed to provide about 10 percent, or almost 1 Bcf per day, of additional pipeline import capacity from Canada. The largest of these projects is the expansion of the Northern Border pipeline system, which, when completed in December, will increase import capacity into Chicago and the Midwest by 650 million cubic feet (MMcf) per day.

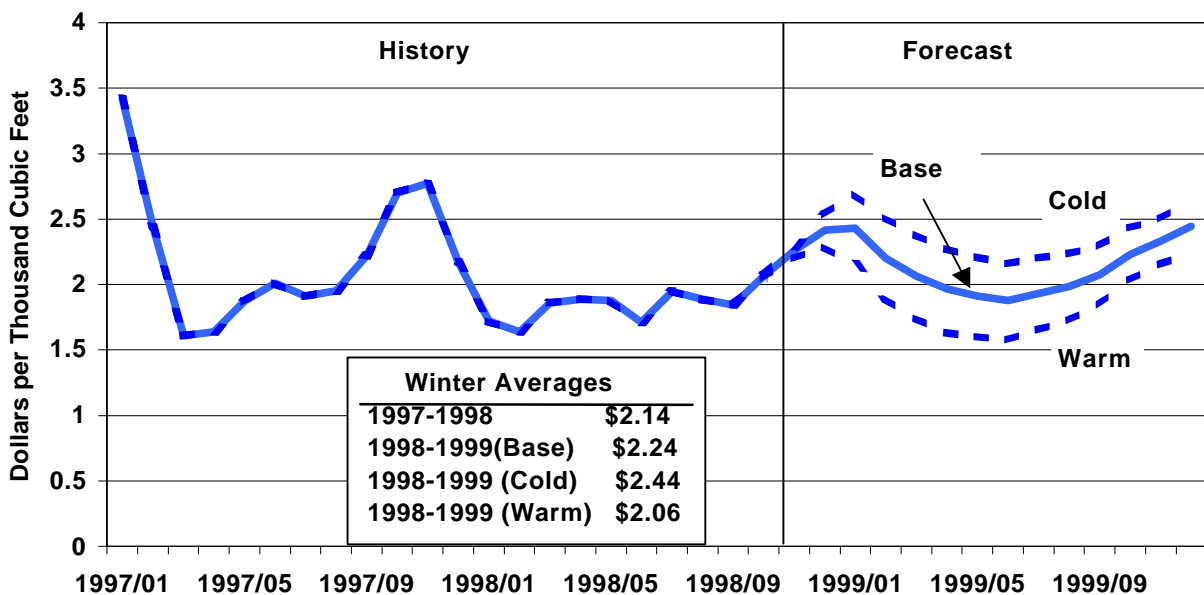
#### **Average Prices Slightly Higher Than Prices Last Heating Season**

Natural gas wellhead prices are projected to average about \$2.24 per thousand cubic feet (Mcf) this winter compared to the \$2.14 per Mcf average price seen a year ago (Figure 5). Last winter, the average wellhead price was high going into the winter, reaching its monthly peak in November at \$2.77 per Mcf. Contributing to this early price increase was concern about low stocks and reaction to the much colder-than-normal temperatures experienced early in the heating season in November. By late December, the weather began to moderate, storage levels improved, and prices retreated. By February, the wellhead price was at \$1.64 per Mcf. For the first quarter of 1998, wellhead prices declined by more than 30 percent from prices during the previous quarter. This year's improved stock level has already had an impact on prices compared to last

year's levels. In late September of this year, prices on the NYMEX natural gas commodities futures market for the early months of the upcoming winter season were 20 to 30 percent lower than last year at the same time. Thus, going into the winter, average wellhead prices for the fourth quarter (\$2.25 per Mcf) are expected to be substantially below prices during the fourth quarter of 1997. They are projected to remain about steady, on average, at \$2.23 in the first quarter 1999, an average which is substantially higher than the \$1.74 per Mcf recorded in the first quarter 1998. Figure 5 illustrates how, as generally higher stocks and lower heating demand give way to stock reductions and high heating demand factors, we expect a higher gas price regime to emerge.

Prices paid by residential consumers are also expected to move up slightly, averaging \$6.74 per Mcf, or 2.7 percent higher than last year's average. The largest differential compared to last year occurs in the first quarter of 1999. Last year, the moderate temperatures in January and February resulted in a 7-percent decline in the average residential price of gas between the last quarter of 1997 and the first quarter of 1998 (\$6.83 per Mcf vs \$6.38). This year, assuming normal weather, the average residential price in the first quarter of 1999 is projected to be close to \$6.80 per Mcf, about 4 percent higher than in the last quarter of 1998. With projections of normal winter weather, residential consumption is projected to be about 3,840 Bcf and would result in total expenditures of \$25.9 billion during the heating season. This is about \$2.5 billion more than last year's expenditures, when residential consumption was significantly lower at about 3,580 Bcf.

**Figure 5. Natural Gas Wellhead Prices**



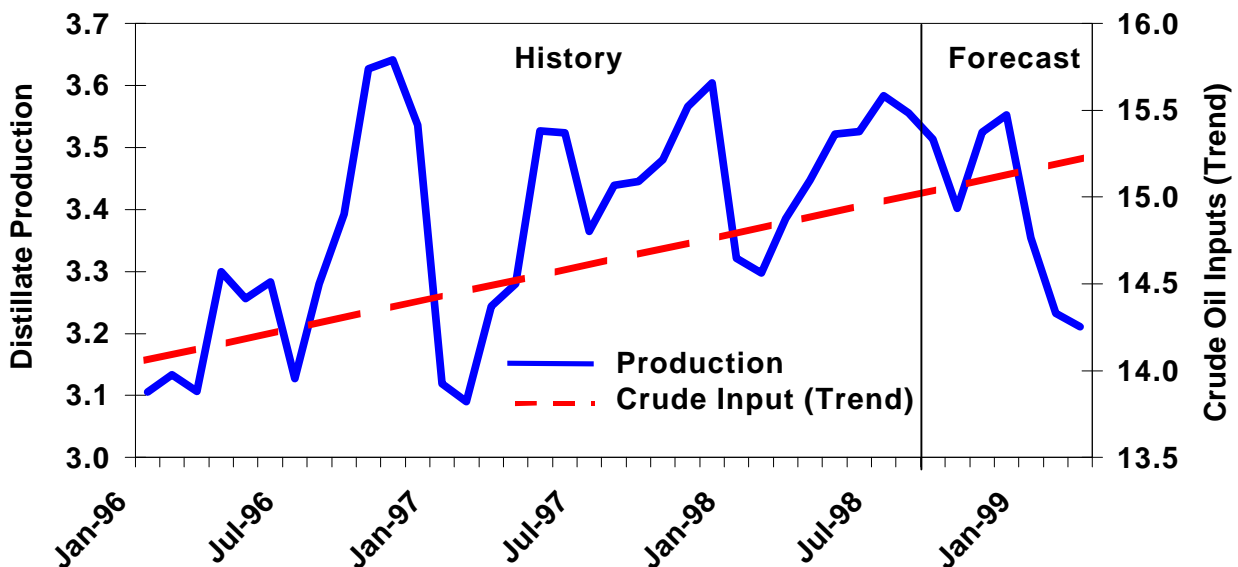
# Heating Oil

## While Demand Fell, Stocks Increased

The projection for U.S. demand for distillate this winter assumes normal weather, which, would result in a 3.3 percent increase in demand over last year. During the 1997-1998 heating season, weather in the Northeast was unusually warm, more than 10 percent below the normal pattern of heating degree-days (HDD), a trend repeated across the entire Northern Hemisphere. In spite of the higher U.S. demand projections for this winter, high pre-heating season distillate stocks and an outlook for continued low crude oil prices should keep distillate prices lower this year than last on average.

A major factor affecting the U.S. heating oil market this year is the shift in world petroleum markets that began in 1997. Most of 1996 was a time of tight supply-demand balances and rising prices. As 1997 began, crude oil prices fell with the return of Iraq to the crude oil market, but leveled out somewhat during the summer. However, prices resumed their decline in the fall of 1997 as continued strong crude oil production exceeded lower-than-expected demand brought about by the collapse of the Asian economies and a warmer-than-usual winter. Through the first half of 1998, world supply continued to exceed demand and the world crude prices continued to fall through late summer. Since the beginning of 1998, the world market has provided incentives to increase refinery crude runs to produce and store product for future delivery. The U.S. distillate market is no different. U.S. refinery crude runs since January 1998 have been higher than in similar months in 1997, and, as illustrated in Figure 6, production of distillate has increased through most of 1998.

**Figure 6. Distillate Refinery Production and Crude Oil Input** (Million Barrels per Day)



The collapse of Asian demand is not only contributing to lower crude oil prices, it also may affect U.S. distillate imports and exports. Normally, Asian demand for distillate fuel (heating oil plus diesel fuel), collectively called gasoil on the world market) "tightens" the distillate import market, limiting available supply, and thereby bolstering prices during periods of peak demand. However, the rate of economic growth fueling Asia's oil consumption has dropped since late 1997 as the financial markets unraveled. The base case projection for the 1998-1999 heating season assumes little change in distillate demand by the Asian economies but a return to normal weather in the Northeastern United States, Northern Europe, and Japan. This implies there will be less incentive to export distillate from the U.S., and more economic imports may be available to help meet any unanticipated U.S. demand.

### **Results of High Stocks for this Winter? – Adequate Supply at Lower Prices**

Because heating oil is often needed with short notice during cold spells, stocks play a very critical role -- in cold spikes, even more so. When cold spells persist or are drawn out over time, production and imports can supplement stocks in meeting winter demand. In normal years, changes in distillate stocks (and prices) reflect movements in the demand-supply balance tempered by expectations of uncertainties about the underlying fundamentals in the heating season months ahead. In preparation for a coming heating season in October, distillate stocks normally begin to be replenished in the spring. A large part of this rebuild in distillate stocks results from the co-production of distillate as demand for motor gasoline begins its seasonal rise.

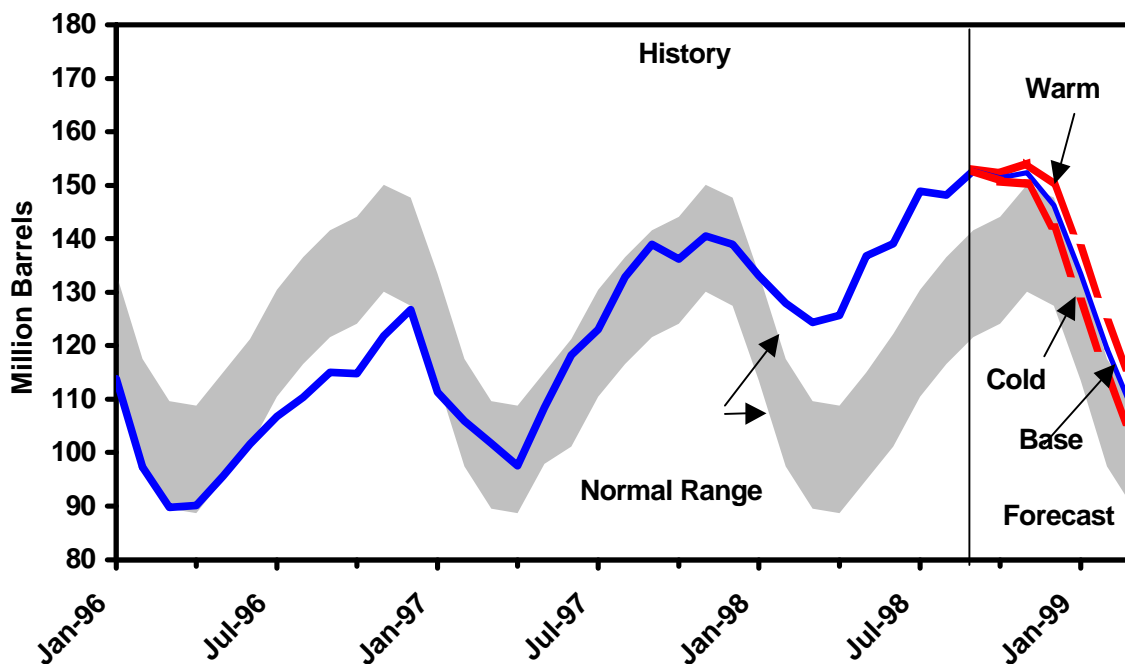
How high the distillate stock build goes depends largely on expectations reflected in the futures market of the demand-supply balance for distillate once the coming heating season begins and peaks. In anticipation of the coming heating season, the futures market shifts into what is called "contango", when prices in succeeding delivery months are progressively higher than in the nearest delivery month. If the increase month-to-month exceeds the monthly cost of storage, there is a financial incentive to continue building stocks. This financial incentive stops when that month-to-month increase in delivery prices falls below the monthly cost of holding inventory. Although the market went into contango early in April 1998, there was little financial incentive to build distillate stocks until the middle of May. Over the next several months, this financial incentive coexisted with record high stock levels.

Figure 7 shows that the past 12 months in distillate markets leading up to the coming 1998-1999 heating season have departed from what had to date been called a normal pattern. By July 1998, distillate stocks exceeded 140 million barrels compared to slightly over 123 million barrels a year earlier. Distillate stocks began to exceed the previous 3-year average range in January 1998. The



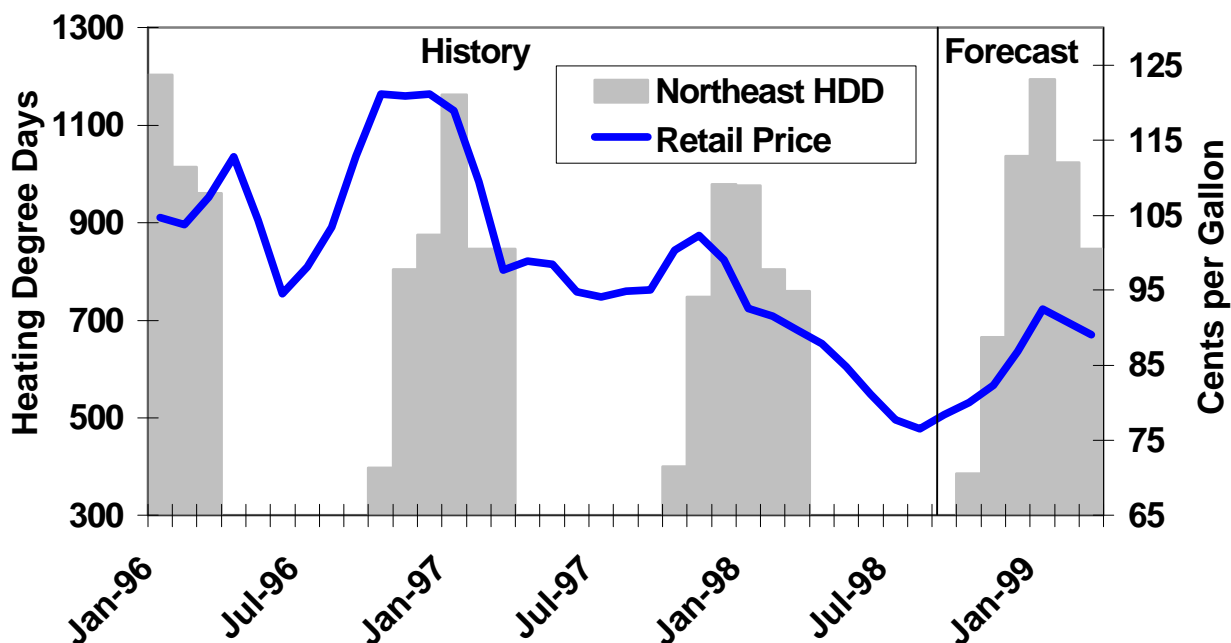
unexpected accumulation of this high level of distillate stocks by summer 1998 stems from the confluence of two factors: U.S. distillate inventories ended the prior heating season at high levels as a result of the warm winter; and the world petroleum market produced an incentive to continue to produce distillate and build stocks for future delivery of product. The base case projects that distillate stocks will remain over 140 million barrels through December 1998 and then drop sharply to meet the forecasted return to normal weather in the Northeast.

**Figure 7. U.S. Distillate Stocks** (Based on Normal, Severe, and Mild Winter Weather)



The path of total U.S. retail distillate prices is shown in Figure 8, in comparison to the HDD for the Northeast. Prices at both the wholesale and retail levels have been declining on average since the last half of 1996, largely as a result of crude oil price declines. While weather has been a factor for prices in the previous two heating seasons, the forecasted return to normal weather for the Northeast is projected to have some upward impact on prices, although this influence is tempered by the high stocks expected to be in place on October 1. The main factor expected to keep heating oil prices low this winter is low crude oil prices. In spite of the low prices, colder weather and higher usage this winter could boost consumers' bills up over last year's levels.

Figure 8. Retail Heating Oil Prices Showing Winter Weather in Northeast



## Propane

### Year-Over-Year Demand Flat

The primary factors that affect propane demand in the United States are propane prices, crude oil and natural gas prices, macroeconomic growth and weather. Because of the influence of the highly weather-dependent residential sector, total propane demand generally mirrors the same seasonal patterns as the residential sector, rising during winter months and falling during the spring and summer months.

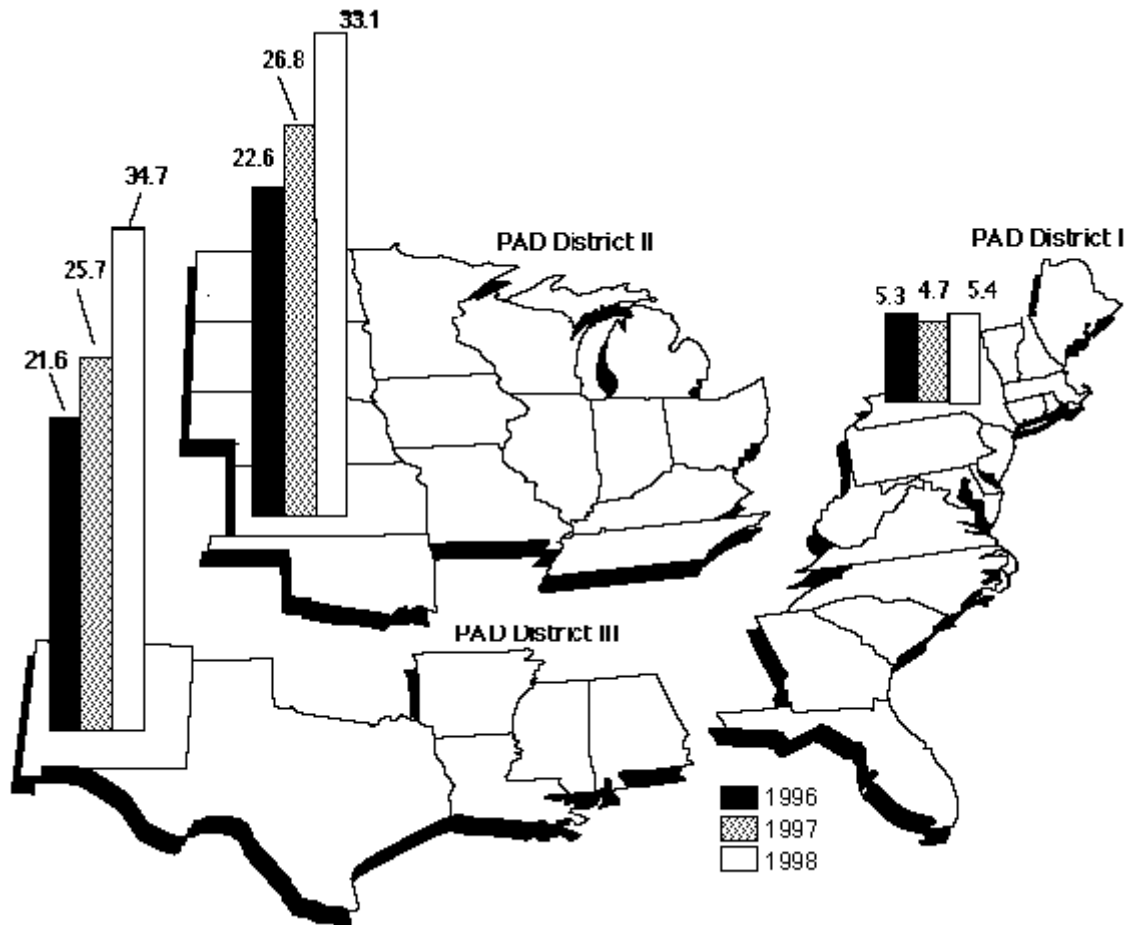
U.S. demand for propane averaged about 1.37 million barrels per day during the 1997-1998 winter heating season, up nearly 6 percent from the previous year's heating season despite mild winter weather. However, a comparison of demand for the first seven months of 1998 with demand during the same period last year shows demand relatively flat at 1.1 million barrels per day. Milder weather during the first quarter 1998, compared with first quarter 1997, contributed to lower residential heating demand, while slowing demand for petrochemical-based products pushed petrochemical feedstock demand for propane lower during the second quarter of 1998. Although industrial (including feedstock demand) for propane has appeared to be relatively weak since last winter, residential demand will most certainly be a strong positive factor this winter, if temperatures are near normal.

## **Record Stock Build Boosts Supply**

Demand for propane is met by domestic production at gas processing plants and at refineries, inventory withdrawals, and net imports. Domestic production accounts for the largest share of winter supply, followed, in turn, by inventory withdrawals and imports. Total propane production through July 1998 averaged nearly 1.1 million barrels per day, relatively unchanged from last year's level during this same period. Production at gas processing plants dipped slightly from year-ago levels through July, while production at refineries remained nearly flat compared with year-ago levels. Refineries have accounted for most of the annual growth in propane production over the past several years due to high refinery runs from strong gasoline production. However, the sluggishness from gas plant production was due partly to higher natural gas prices compared with relatively low natural gas liquid prices that have discouraged higher extraction rates from gas processing plants.

Primary inventory withdrawals provide the second largest source of propane during the winter heating season. Inventories are built up during the spring and summer months and typically peak by the end of September. The buildup of U.S. inventories through September 1998 was one of the largest ever, measuring over 46 million barrels. As of September 30, U.S. inventories of propane stood at 75.9 million barrels, the highest level for this month since 1986. One of the factors for the high level of inventories this year was the relatively mild winter that left U.S. inventories at nearly 30 million barrels by the end of March, their highest level for this month in 6 years. Regional inventories remain above prior year levels and are well above the normal range in the Midwest and the Gulf Coast areas. Inventories in the East Coast remain slightly above the normal range for this time of year (Figure 9).

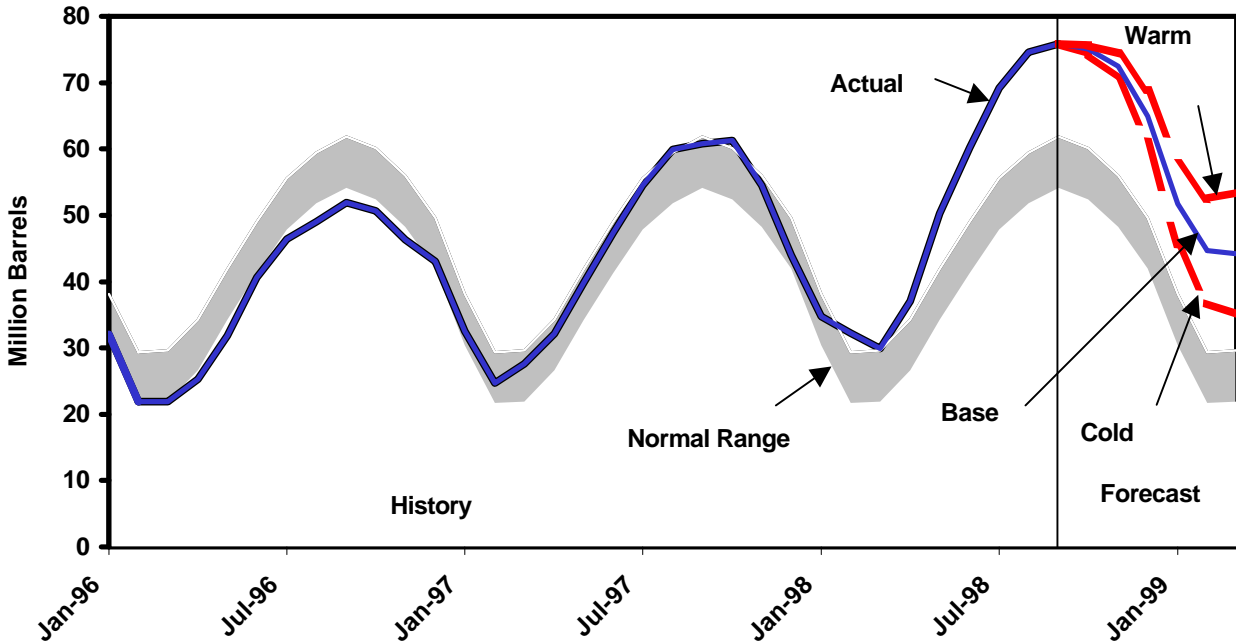
**Figure 9. Propane Stocks of Beginning of Heating Season (September 30<sup>1</sup>)**



<sup>1</sup>Ending Stocks by PAD Districts I, II, and III for September 30, 1998, were imputed based on August 31, 1998 data reported on Form EIA-807, "Propane Telephone Survey," and September 30, 1998 data developed from the Propane Market Model," (DOE/EIA-M055).

On the basis of current inventory levels and projected supply and demand, the expectation for the 1998-1999 winter heating season is for adequate supplies and moderate prices, given normal weather and the absence of any major supply problem. Under a base case scenario, stocks are projected to gradually decline over the course of the season, reaching a level of 44 million barrels by the end of March 1999 (Figure 10).

**Figure 10. U.S. Propane Stocks** (Based on Normal, Cold, and Warm Winter Weather)

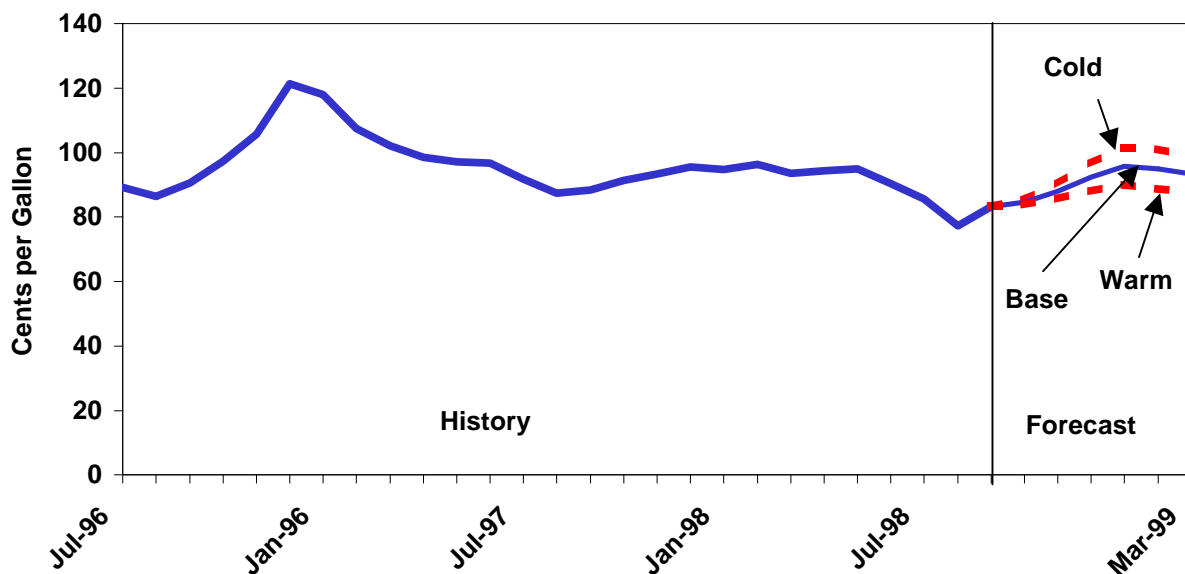


### Prices Remain Low

Propane prices at all levels of the distribution chain are subject to a number of influences. The primary determinant of spot propane prices, as with most commodities, is the balance of demand and available supply, often on a regional basis. Additionally, propane prices are influenced by crude oil and natural gas prices, competition with other commodities used as fuel or feedstock, and intangible factors, such as uncertainty about future supply or demand.

Both wholesale and residential propane prices have tracked below prior year levels through July 1998, primarily the result of abundant supplies of propane in the face of weakening demand. Under the base case scenario, average residential prices would be expected to increase seasonally from about 83 cents per gallon in September to a winter peak of 96 cents per gallon in January. Prices would gradually fall and end the season at 93 cents per gallon (Figure 11).

**Figure 11. Residential Propane Prices** (Based on Normal, Severe, and Mild Winter Weather)



### Cold Weather Scenario

This scenario assumes that weather, in terms of heating degree-days, will be 10 percent colder than normal for the entire heating season (October 1998 through March 1999). Such a heating season would be substantially colder than last winter's relatively mild weather.

Under this cold weather pattern, natural gas consumption could increase by 5 percent above consumption generated under normal weather conditions, to about 73.9 Bcf per day. Reliance on increased withdrawals from storage is expected to meet much of the incremental demand increase. The rate of storage withdrawal would rise to about 12.3 Bcf per day, up from 10.6 Bcf in the normal weather scenario. Production would increase to 53.8 Bcf per day. Assuming that the planned additional pipeline import capacity becomes available, imports from Canada are expected to increase about 0.5 Bcf per day, mostly in the first quarter of 1999 as much of the capacity will not be on line until then. With the increased demand, wellhead prices would move up about \$0.20 per Mcf to average \$2.44 and residential prices would increase by \$.08 to average \$6.82 per Mcf. This would mean an additional cost to residential consumers of about \$2.6 billion under these more severe winter conditions.

In heating oil markets, the severe winter case implies an increase in distillate demand of about 2.7 percent above demand in the normal weather case, or 6.0 percent above last winter's. Even with colder weather, the average winter retail

price for heating oil would be expected to be about even with last winter's (93 cents per gallon) even if higher crude oil prices occurred as well.

In this scenario, propane supplies are projected to end the heating season at 35 million barrels, 9 million barrels lower than in the base case scenario. The impact of this scenario on residential prices would be significant. With cold weather concentrated in the second half of the season, a shorter period would exist for incremental supplies of propane from production and imports to respond to the higher demand during the peak winter months. The projected result would be residential propane prices reaching a maximum price in January of 102 cents per gallon, then declining to 99 cents per gallon by March 1999, 6 cents over the base case price.

### **Warm Weather Scenario**

This scenario assumes that weather, in terms of heating degree-days, will be 10 percent warmer than normal throughout the coming heating season. Assuming this warmer-than-normal case, natural gas consumption is projected to be about 67.2 Bcf per day, nearly 5 percent lower than consumption under normal weather and slightly below last year's consumption levels. This would likely result in lower withdrawals from storage, and end of season working gas storage levels could be nearly 1,400 billion cubic feet, which would be the highest in 7 years. This would apply downward pressure on prices and lessen the need for a typical storage refill season. Prices are projected under this scenario to average \$2.06 per Mcf at the wellhead, \$0.18 lower than prices under normal weather conditions. Residential consumers would see slightly lower prices, averaging \$6.68 per Mcf, with expenditures of \$23.9 billion, \$2.0 billion lower than expenditures under normal winter conditions.

In the warm weather scenario, refinery output of distillate recedes from the high usage levels of distillate units in 1998, making it possible to conduct needed maintenance in preparation for the next stock building cycle in spring 1999. The expected retail price of heating oil for the coming winter season under the mild weather scenario is 82.6 cents per gallon.

Under this scenario, U.S. propane stocks would be projected to end the heating season at 53 million barrels. This level would be 9 million barrels above the base case scenario and 18 million barrels above the severe case scenario. The impact on residential prices would be similar in magnitude but opposite that of prices in the severe case, moving average residential prices to about 87.4 cents per gallon, or about 4 cents per gallon below the base case price and 7 cents below the average for last winter.

**Table WF01. U.S. Winter Fuels Outlook: Base Case and Weather Cases**

	History			Base Case						Cold Weather	Warm Weather
	1997-1998			1998-1999			Percent Change				
	Q4	Q1	Winter	Q4	Q1	Winter	Q4	Q1	Winter		
<b>Demand/Supply</b>											
Distillate Fuel (mill. barrels per day)											
Total Demand.....	<b>3.60</b>	<b>3.58</b>	<b>3.59</b>	<i>3.57</i>	<i>3.85</i>	<i>3.71</i>	<i>-0.9%</i>	<i>7.6%</i>	<i>3.3%</i>	<i>3.81</i>	<i>3.61</i>
Refinery Output.....	<b>3.55</b>	<b>3.34</b>	<b>3.44</b>	<i>3.49</i>	<i>3.27</i>	<i>3.38</i>	<i>-1.6%</i>	<i>-2.1%</i>	<i>-1.8%</i>	<i>3.42</i>	<i>3.3</i>
Net Stock Withdrawal.....	<b>0.00</b>	<b>0.16</b>	<b>0.08</b>	<i>0.07</i>	<i>0.43</i>	<i>0.25</i>	<i>NM</i>	<i>177.9%</i>	<i>218.6%</i>	<i>0.29</i>	<i>0.23</i>
Net Imports.....	<b>0.05</b>	<b>0.08</b>	<b>0.07</b>	<i>0.01</i>	<i>0.15</i>	<i>0.08</i>	<i>NM</i>	<i>86.2%</i>	<i>21.3%</i>	<i>0.1</i>	<i>0.07</i>
Refinery Utilization (percent) .....	<b>96.6%</b>	<b>93.1%</b>	<b>94.9%</b>	<i>93.9%</i>	<i>91.5%</i>	<i>92.7%</i>				<i>92.8</i>	<i>91.8</i>
Natural Gas (bill. cubic feet per day)											
Total Demand.....	<b>62.32</b>	<b>73.53</b>	<b>67.86</b>	<i>61.28</i>	<i>79.97</i>	<i>70.52</i>	<i>-1.7%</i>	<i>8.8%</i>	<i>3.9%</i>	<i>73.85</i>	<i>67.22</i>
Production .....	<b>51.99</b>	<b>52.73</b>	<b>52.36</b>	<i>52.55</i>	<i>52.98</i>	<i>52.76</i>	<i>1.1%</i>	<i>0.5%</i>	<i>0.8%</i>	<i>53.78</i>	<i>51.77</i>
Net Stock Withdrawal.....	<b>5.46</b>	<b>10.96</b>	<b>8.18</b>	<i>5.89</i>	<i>15.36</i>	<i>10.57</i>	<i>8.0%</i>	<i>40.2%</i>	<i>29.3%</i>	<i>12.31</i>	<i>8.74</i>
Net Imports.....	<b>8.09</b>	<b>8.30</b>	<b>8.20</b>	<i>8.34</i>	<i>8.67</i>	<i>8.51</i>	<i>3.1%</i>	<i>4.4%</i>	<i>3.8%</i>	<i>9.02</i>	<i>8.05</i>
<b>Propane</b> (mill. barrels per day)											
Total Demand.....	<b>1.38</b>	<b>1.36</b>	<b>1.37</b>	<i>1.26</i>	<i>1.36</i>	<i>1.31</i>	<i>-8.7%</i>	<i>0.0%</i>	<i>-4.4%</i>	<i>1.36</i>	<i>1.26</i>
Net Stock Withdrawal.....	<b>0.18</b>	<b>0.16</b>	<b>0.17</b>	<i>0.12</i>	<i>0.23</i>	<i>0.17</i>	<i>-34.1%</i>	<i>45.9%</i>	<i>2.6%</i>	<i>0.22</i>	<i>0.12</i>
<b>Stocks (ending period)</b>											
Distillate Fuel (MMB)- Beg. <sup>a</sup> .....	<b>139</b>	<b>138</b>	<b>139</b>	<i>153</i>	<i>146</i>	<i>153</i>	<i>10.1%</i>	<i>5.6%</i>	<i>10.1%</i>	<i>153</i>	<i>153</i>
- End. <sup>a</sup> .....	<b>138</b>	<b>124</b>	<b>124</b>	<i>146</i>	<i>107</i>	<i>107</i>	<i>5.6%</i>	<i>-13.8%</i>	<i>-13.8%</i>	<i>102</i>	<i>112</i>
Working Gas (BCF) - Beg. <sup>b</sup> .....	<b>2672</b>	<b>2170</b>	<b>2672</b>	<i>2944</i>	<i>2402</i>	<i>2944</i>	<i>10.2%</i>	<i>10.7%</i>	<i>10.2%</i>	<i>2944</i>	<i>2944</i>
- End. <sup>b</sup> .....	<b>2170</b>	<b>1184</b>	<b>1184</b>	<i>2402</i>	<i>1020</i>	<i>1020</i>	<i>10.7%</i>	<i>-13.9%</i>	<i>-13.9%</i>	<i>704</i>	<i>1354</i>
Propane (MMB) - Beg. <sup>a</sup> .....	<b>61</b>	<b>44</b>	<b>61</b>	<i>76</i>	<i>65</i>	<i>76</i>	<i>25.0%</i>	<i>47.6%</i>	<i>25.0%</i>	<i>76</i>	<i>76</i>
- End. <sup>a</sup> .....	<b>44</b>	<b>30</b>	<b>30</b>	<i>65</i>	<i>44</i>	<i>44</i>	<i>47.6%</i>	<i>47.4%</i>	<i>47.4%</i>	<i>35</i>	<i>53</i>
<b>Prices</b>											
Imported Crude Oil (c/g) <sup>c</sup> .....	<b>42.3</b>	<b>32.0</b>	<b>37.4</b>	<i>30.3</i>	<i>31.2</i>	<i>30.7</i>	<i>-28.3%</i>	<i>-2.7%</i>	<i>-17.7%</i>	<i>34.4</i>	<i>27.1</i>
Retail Heating Oil (c/g) .....	<b>93.4</b>	<b>91.5</b>	<b>92.5</b>	<i>84.3</i>	<i>91.0</i>	<i>87.7</i>	<i>-9.8%</i>	<i>-0.6%</i>	<i>-5.1%</i>	<i>93.4</i>	<i>82.6</i>
Wellhead Gas (\$/mcf) .....	<b>2.54</b>	<b>1.74</b>	<b>2.14</b>	<i>2.25</i>	<i>2.23</i>	<i>2.24</i>	<i>-11.7%</i>	<i>28.0%</i>	<i>4.4%</i>	<i>2.44</i>	<i>2.06</i>
Resid. Gas (\$/mcf) .....	<b>6.83</b>	<b>6.38</b>	<b>6.56</b>	<i>6.58</i>	<i>6.83</i>	<i>6.74</i>	<i>-3.6%</i>	<i>7.1%</i>	<i>2.7%</i>	<i>6.82</i>	<i>6.68</i>
Resid. Propane (c/g) .....	<b>93.4</b>	<b>94.8</b>	<b>94.1</b>	<i>88.3</i>	<i>94.7</i>	<i>91.5</i>	<i>-5.5%</i>	<i>-0.1%</i>	<i>-2.8%</i>	<i>95.6</i>	<i>87.4</i>
<b>Market Indicators</b>											
Manuf. Output (index, 1992=1.0) .....	<b>1.301</b>	<b>1.309</b>	<b>1.305</b>	<i>1.332</i>	<i>1.342</i>	<i>1.337</i>	<i>2.4%</i>	<i>2.6%</i>	<i>2.5%</i>	<i>1337</i>	<i>1337</i>
Northeast HDDs.....	<b>2120</b>	<b>2540</b>	<b>4661</b>	<i>2089</i>	<i>3064</i>	<i>5153</i>	<i>-1.5%</i>	<i>20.6%</i>	<i>10.6%</i>	<i>5668</i>	<i>4638</i>
Gas-Weighted HDDs .....	<b>1773</b>	<b>2078</b>	<b>3851</b>	<i>1686</i>	<i>2426</i>	<i>4112</i>	<i>-4.9%</i>	<i>16.7%</i>	<i>6.8%</i>	<i>4524</i>	<i>3700</i>

<sup>a</sup>mmb = million barrels.

<sup>b</sup>bcf = billion cubic feet

<sup>c</sup>Refiners' acquisition cost for imported crude oil.

<sup>d</sup>Percent changes have been adjusted for leap-year effects.

Notes: NM = percentage changes not particularly informative. Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold; forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System. Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109; *Monthly Energy Review*, DOE/EIA-0035. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0897.