1999-2000 Winter Fuels Outlook

Introduction

This winter--defined as the period from October 1999 to March 2000--is expected to witness both higher space heating fuel demand and prices than those during the previous winter season, during which an economic slide in several emerging markets and a warmer-thannormal winter helped to depress both consumption and prices. Several factors have contributed to the marked oil price increases since the lows of last winter. These are: economic resurgence in areas which had suffered declines, higher-than-expected compliance by OPEC members with new production quotas, and the prospect of a more "normal" winter season bringing colder temperatures than last winter. As a result, consumers are likely to incur higher fuel bills this winter compared to their bills in the previous heating season. Nonetheless, supplies of space-heating fuels are expected to be more than adequate to meet winter demand. The incremental requirements of a severe winter should be met without serious difficulty; but, in that event, consumer prices could be much higher than those of a normal winter season.

Winter Heating Bills

Mainly because of the high likelihood of much higher oil and gas prices this winter, we expect that consumers will face markedly higher expenditures for heating (or other energy uses) over the next two quarters compared to their expenditures during the same period last year. Table WF01 below summarizes our base (normal weather), cold weather and warm weather scenario cases as they apply to typical household winter energy expenditures for key selected heating fuels.

Table WF01. Illustrative Consumer Prices* and Expenditures** for Heating Fuels During the Winter										
	1996-1997	1997-1998	1998-1999	1999-2000 Projections						
	Actual		Actual	Base	Warm Weather	Cold Weather				
Heating Oil (New England)										
Consumption (gals)	676.4	651.0	650.9	688.9	630.9	746.8				
Expenditures (\$)	710	599	521	748	617	892				
Avg. Price (\$/gal)	1.05	0.92	0.80	1.09	0.98	1.20				
Propane (Midwest)										
Consumption (gals)	898.9	814.4	824.4	887.4	814.8	959.9				
Expenditures (\$)	998	767	704	957	<u>82</u> 9	1096				
Avg. Price (\$/gal)	1.11	0.94	0.85	1.08	1.02	1.14				
Natural Gas (Midwest)										
Consumption (mcf)	91.4	82.4	83.5	90.2	82.5	97.9				
Expenditures (\$)	606	546	<u>52</u> 4	625	568	687				
Ava. Price (\$/mcf)	6.63	6.62	6.28	6.93	6.89	7.02				

* National average prices.

** Based on typical per-household consumption by region.

Our calculations focus on particular regions of the country with respect to per-household consumption and projected weather factors (i.e., changes in heating degree-days) but utilize the national average consumer prices for heating fuels normally presented in the *Short-Term Energy Outlook.* Thus, heating bill calculations are illustrative of the magnitude of the expected changes in fuel bills but are not necessarily indicative of the absolute expenditure levels to be anticipated by individual consumers.

Expenditures for this winter are likely to be relatively large, especially in comparison to costs seen in the last two winters (1997-1998 and 1998-1999). In our base case projections, we anticipate 44 percent, 36 percent and 19 percent approximate increases in heating fuel bills this winter for households that use primarily heating oil, propane and natural gas, respectively. On the other hand, for all of the fuel types shown, the base case for this winter would not be very different from the experience of the 1996-1997 winter, in terms of fuel demand levels and cost. During that period, winter temperatures were close to normal.

Obviously, the actual outcome this winter will depend very much on the weather. We have considered two cases in addition to the base case (normal weather): 10% colder and 10% warmer-than-normal scenarios (Figure WF1). Cases like these are not particularly likely (the probability of winter weather deviating from normal by at least 10 percent is estimated to be about 5 percent). However, these ranges for weather variation yield realistic upper and lower bounds for energy market behavior over the upcoming heating season.

Upward momentum in world oil prices has been evident in recent months. This is indicative of the pressures engendered by sharply reduced world output and the perception of current and future upward movement in world oil demand, especially as previously hard-hit Asian economies start to recover. Significant demand shifts relative to current expectations could generate particularly sharp reactions in crude oil prices in either direction. Thus, weather variations, to the extent that they are not localized, such as significantly higher-than-normal (or lower-than-normal) heating degree-days across the Northern Hemisphere, would likely result in much higher (lower) world oil prices this winter. We have calculated a plausible range of oil price responses for our weather cases, illustrated in Figure WF01. The implications of these impacts for heating oil are shown in Figure WF2.

For heating oil, aside from net impacts of higher crude costs, refining margins would also increase (decrease) with colder (milder) weather, as marginal distillate supply costs rise (fall) with shifting demand. These estimated effects are included in Figure WF2. High and low ranges for propane have also been calculated.



Figure WF1. Crude Oil Costs to U.S. Refiners: Weather Scenarios

Figure WF2. Residential Heating Oil Prices: Weather Scenarios



Natural gas prices, while they would be expected to rise, are sensitive mostly to shifts in working gas in storage, which are critical for meeting winter demand. Figure WF3 illustrates the expected range for wellhead gas prices this winter under our assumed weather cases. For

residential gas customers, increases in wellhead costs are passed on with a lag because of monthly billing cycles and regulatory oversight. The result is a more moderate increase in the typical residential gas bill compared to those of other fuels (Table WF01).





Natural Gas

Demand

A return to normal weather will see demand increase

Total natural gas demand is expected to move higher this winter, averaging 70.4 billion cubic feet (bcf) per day, an increase of 5.9 percent compared to last year's daily average of 66.5 bcf per day. Contributing to the growth in winter demand is the increase in gas space-heating customers (about 1 percent). Most of the increase is related to assumptions of a return to more normal weather patterns. Milder weather last winter resulted in gas-weighted heating degree-days that were 3.5 percent below normal, but several Midwestern areas experienced weather as much as 6.5 percent warmer than normal. As a result, winter consumption in residential and commercial markets is expected to average 20.7 and 12.6 bcf per day, respectively, up about 9 percent and 10 percent from the previous winter's consumption (Figure WF5).



Figure WF4. Residential Natural Gas Prices: Weather Scenarios

Supply

Stock levels are about the same as last year's 5-year high

Domestic gas production is expected to average 51.8 bcf per day during the heating season, up slightly from the 51.2 bcf per day during the previous winter (Figure WF6). Drilling activity for both oil and gas had dropped sharply in the first quarter of 1999 in reaction to the precipitous decline in the price of oil. The total rig count reached a low of 496 in April--44 percent below last April's rig count of 886. Since then, rig counts have recovered with rise in the price of crude oil. By mid-September, the rig count had reached 690, with 561, or 80 percent, of the rigs dedicated to gas exploration. The sharp drop in drilling early in the year and the lead time needed to bring properties to production has been a concern of many in the industry this past spring and summer. However, EIA believes that sufficient production capacity remains to meet the moderate increase in production requirements projected here for the base case and for the severe weather scenario.

Working gas storage at the beginning of the season (October 1) is estimated to have reached 2,955 bcf, about the same as last season's 5-year high of 2,949 bcf but significantly above the October 1, 1998 level of 2,672 bcf (Figure WF7). Storage plays a critical role in meeting increased seasonal demand. In many areas of the country, it is the most important source for local distributing companies to meet peak demand requirements. During this heating season, withdrawals are

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expected to be significantly higher than last year's to meet the additional demand, averaging 10.7 bcf per day compared to last year's average of 8.4 bcf per day. Due to larger projected withdrawals this winter, end-of-season stocks of working gas are projected to be 1000 bcf. This level is comparable to the 990 bcf seen at the end of the 1996/97 heating season with relatively normal weather, but is much below the 1,430 bcf at the end of the last heating season, March 1999, which was warmer than normal.



Figure WF5. U.S. Winter Natural Gas Demand (Year-to-Year Percent Change)

Figure WF6. Components of Natural Gas Supply





Natural gas imports are expected to average 9.6 bcf per day, or 14 percent of demand, compared to last year's 8.7 bcf per day, or 12 percent of demand. During the winter months, net imports are about 10 percent higher than flows during the rest of the year and usually increase to full pipeline capacity. That capacity, which had remained unchanged for the previous few years, increased late last year as three construction projects were completed, expanding deliverability of Canadian gas by almost 1 bcf per day. The largest of these projects, the expansion of the Northern Border pipeline system, increased import capacity into the Midwest by 700 million cubic feet (mcf) per day.

Price and Expenditures

Higher wellhead prices and normal weather will see residential expenditures rise

Natural gas wellhead prices are projected to average about \$2.50 per mcf this winter compared to the \$1.79 per mcf average price seen a year ago. Last winter, the average wellhead price was low going into the winter at \$1.83, rose slightly to \$1.94 by November before sliding to \$1.70 by the end of the season. Contributing to the low price of natural gas last season were the mild winter weather in several major gas-consuming markets (such as the Midwest), elevated stock levels, and collapsing oil prices. This year's higher oil prices and expected higher demand have already brought much higher gas prices than last year's (Figure WF4). In late September of this year,

prices on the NYMEX futures market for the early months of the upcoming winter season were up 16 to 20 percent from those of last year.

Prices paid by residential consumers are also expected to move up, averaging \$6.93 per mcf, up 10 percent from last winter's average of \$6.28. At the beginning of this season (September), we estimate that residential prices are about equal to year-ago levels. Consumers could see slightly higher or lower prices during the winter, depending on whether abnormally cold or warm conditions develop.

Other Weather Scenarios

Under a severe weather pattern, in which heating-degree days are 10 percent colder than normal, gas consumption could increase by an additional 3.6 bcf per day--or 5.1 percent--from the base case, rising to 74.0 bcf per day. Production would increase by at most 1.0 bcf per day to 52.8 bcf per day, and imports would increase by 0.5 bcf to 10.1 bcf per day. Increased withdrawals from storage would rise 2.6 bcf per day to 13.3 bcf per day. End-of-season working gas stocks would be 525 bcf, or half the stocks of a normal winter. (It should be noted that increased production and imports would theoretically not be necessary to meet the requirements of a cold winter, because working gas alone could supply the entire incremental requirements with 343 bcf to spare). Realistically, though, the price reaction to such a severe draw on stocks would be hard to predict and is likely to be quite large. At a minimum, with the increased demand, wellhead prices would increase by \$0.13 to average \$7.06 per mcf. Residential demand would increase by 1.8 bcf per day, or 9 percent. The combined impact of higher demand and prices resulting from a severe winter would raise the average space-heating bill by 10 percent above the bill for the base case for the typical gas-heated household (Table WF01).

A winter that is 10 percent warmer than normal would lower total natural gas consumption from that of the base case by 4.6 bcf per day, or 6.5 percent, to 65.8 bcf per day, lower than last year's consumption. Residential demand would decline by 1.7 bcf, or 9 percent, to 18.9 bcf per day. Withdrawals from storage would average 7.8 bcf per day, 2.9 Bcf per day less than under normal weather, leaving end-of-season working gas inventories of 1,536 bcf. Wellhead prices under this scenario are projected to average \$2.37 per mcf, \$0.13 lower than under normal weather conditions. Last winter, when temperatures were more than 20 percent warmer than normal some days, the average price of gas at the wellhead dropped to \$1.73 per mcf in February. In a warmer-than-normal winter, the price to residential consumers would average \$6.89 per mcf, \$0.04 less than under the assumptions of a normal winter.

Heating Oil

Cold or Not, Expect Higher Fuel Bills

In the wake of a doubling of oil prices since the beginning of this year, sharp increases in heating oil expenditures can be expected this winter, even if temperatures turn out to be as warm as those during the previous winter. As much as anything else, this fact reflects the extraordinarily depressed level of crude oil and petroleum products prices last winter, brought about by economic weakness in several emerging markets. The base case forecast, which assumes normal weather, yields average heating oil prices and demand levels similar to those seen in the winter of 1996-1997.

Demand

Winter demand for distillate fuel is projected to be 3.70 million barrels per day, 130,000 barrels per day, or 3.4 percent, above the 1998-1999 level in the base case. The expectation of normal winter weather in the Northeast, the principal region for heating oil, would bring about a 6.9 percent increase in heating degree-days per day in that region and a corresponding increase in heating oil demand. As it turns out, much of the year-to-year increase in heating-degree days is expected to occur in the fourth quarter of 1999. For the peak winter quarter, heating-degree days are expected to be only 3.4 percent higher than in the first quarter of 1999. Meanwhile, adding to the overall expected increases in distillate demand, growth in transportation-related demand is expected to be about 100,000 barrels per day, or 4.5 percent.

Supply

The three sources of supply--domestic refinery production, net imports and primary stock withdrawals--should be adequate to meet the needs of both a normal and a severe winter. This winter season, refinery production of distillate is projected to average 3.40 million barrels per day, up 110,000 barrels per day from the previous winter's production. Despite steady increases in refinery capacity, average utilization during the winter season is projected to be only 91.5 percent, down from 92.1 percent last winter season and 94.8 percent during the 1997-98 winter season. Net imports are expected to average 100,000 barrels per day, or 2.7 percent of total winter requirements, compared to imports of 140,000 barrels per day, or 3.9 percent of total winter requirements, during the previous heating season.

The heating season is expected to begin with 146 million barrels in primary storage (Figure WF8). Although 7 million barrels less than last winter's beginning-of-season stocks, they are 4 million barrels higher than in stocks were in 1997 and 10 million barrels above the average of the previous 5 years. Nonetheless, the combination of projected higher demand and lower stocks portend a tighter supply/demand balance than during the last winter season. The average stock withdrawal is projected to be 200,000 barrels per day, up slightly from the 150,000 barrels per day last winter. As a result, end-of-season stocks are projected to be 110 million barrels compared to 125 million barrels last winter.

Although severe weather can be expected to result in increased refinery production and imports, it should be noted that a sufficient drawdown in stocks alone could accommodate the increased requirements of a severe winter. At the end of such a winter, stocks would be 99 million barrels, still above the low of 90 million barrels recorded at the end of the 1995-1996 heating season.





Prices

Whether or not strong heating oil demand conditions appear this winter, the rise in crude oil prices virtually assure much higher heating oil prices this winter. Residential heating oil prices are projected to average \$1.09 per gallon this winter in our base case, up 29 cents from last winter's average price. This is a very significant increase, but it should be kept in mind that last winter's average of 80 cents per gallon was extraordinary and clearly reflected the sharp decline in crude oil prices. Essentially all of the increase--29 cents per gallon--stems from the rise in crude oil prices brought about by OPEC's ability to reverse last year's oil price slide at a time when emerging markets were able to stage at least the beginnings of an economic recovery, bringing about an increase in oil demand.

Crude oil costs to U.S. refineries are projected to average 55.5 cents per gallon (\$23.57 per barrel), more than double the depressed levels seen in the previous winter. This projection assumes that OPEC producers maintain a high level of compliance with the previously announced cuts, as reiterated at their Ministerial Meeting on September 22. The projected oil prices also assume that any increases in aggregate non-OPEC production in response to the

higher prices will be insufficient to offset the bullish sentiment engendered by OPEC's restraint during the heating season. Nevertheless, there remains much uncertainty about oil prices this winter, even with normal weather.

Because the current bullish sentiment rests on the assumption that world-wide oil inventories are being drawn down at a rapid rate, a much colder-than-normal winter would stoke an additional increase in demand and accelerated withdrawals, raising crude oil and products prices during the first quarter of 2000. Warm weather, on the other hand, would deflate expectations that the currently high prices can be maintained during the winter. Figure WF1 depicts this source of crude oil volatility brought about by alternative weather scenarios.

Assuming a normal winter, residential heating-oil costs would be expected to rise from those of the previous winter (Table WF01). The bulk of that increase, however, reflects the sharp increase in crude oil prices from those of last winter. A severe winter, however, could increase the average residential fuel bill by an additional 28 percent.

Propane

Assumption of Normal Weather Expected to Boost Demand

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.

Last winter's mild temperatures contributed to propane demand being nearly flat compared with the 1997-1998 heating season's demand. However, assuming winter temperatures return to normal, weather-related demand for propane is expected to increase over the 1998-1999 heating season level.

U.S. demand for propane averaged about 1.36 million barrels per day during the 1998-1999 winter heating season, less than 1 percent below the previous year's heating season, as was expected due to the modest decline in heating degree-days. However, the assumption of higher demand this winter is bolstered by the robust growth in propane demand experienced so far during 1999. Through July 1999, U.S. demand for propane averaged 1.2 million barrels per day, up more than 9 percent from demand during the same period last year. Despite the mild beginning of winter last year, the first quarter of 1999 was much colder, a factor which boosted residential heating demand. Combined with continued strong petrochemical feedstock demand for propane through the first half of 1999, propane demand soared to its highest year-to-date level ever.

Propane demand for the remainder of 1999 is not expected to face any significant changes in the market environment from that experienced earlier in the year. Although a return to normal weather patterns following last winter's milder temperatures is expected to increase residential heating demand, other sector demand requirements, such as for crop drying and petrochemical feedstock use, are not expected to add any upward pressure on the level of demand for the remainder of 1999.

Supply Remains Adequate

Demand for propane is met by domestic production at gas processing plants and at refineries, inventory withdrawals, and net imports. During the heating season, domestic production typically supplies about 80 percent of supply, while inventories and imports supply the remaining 20 percent share of supply. Moreover, the level of production at both gas processing plants and at refineries is relatively inelastic to short-term changes in price and demand. This is due to its by-product status at these facilities.

Total propane production through July 1999 averaged nearly 1.1 million barrels per day, relatively unchanged from production in the comparable period last year. Production at gas processing plants fell slightly from year-over-year levels through July, while production at refineries moved slightly above comparable year-ago levels. Poor extraction economies at gas processing plants continued to plague the industry during the early months of 1999, causing processors to leave a larger portion of the propane in the natural gas stream. However, processing levels may improve over the remainder of the year if natural gas liquid prices keep pace with escalating natural gas prices. Refineries have accounted for most of the annual growth in propane production. Refinery supplied propane is expected to remain strong through the end of the year, an outcome which, in turn, is contingent on an expanding U.S. economy.

Primary inventory withdrawals provide the second largest source of propane during the winter heating season. The level of inventories also represents the imbalance of supply and demand, which explains why inventories are built up during the spring and summer months, when demand is typically at its lowest level. These factors may help explain why the buildup of U.S. inventories through September last year was the largest ever, measuring nearly 47 million barrels. This compares with a 5-year average stock build of 34 million barrels. A mild winter, which lowered demand and left U.S. inventories at their highest March level in 6 years, along with record imports, combined to push up U.S. inventories to their highest pre-heating season level since 1986.

The U.S. stock build for the 1999-2000 heating season measured approximately 28 million barrels, significantly lower than last year's record stock build but still large enough to raise inventories to adequate levels by the start of the heating season. As of September 30, 1999, U.S. inventories of propane stood at an estimated 63 million barrels, the second highest level for this month since 1986.

Regionally, inventories remain within their respective normal ranges in the Midwest and the Gulf coast regions, while, in the East Coast, inventories remain slightly above the normal range for this time of year (Figure WF10).



Figure WF9. U.S. Propane Stocks

On the basis of current inventory levels and projected supply and demand, the expectation for the 1999-2000 winter heating season is for adequate supplies but higher prices, given normal weather and the absence of any major supply problems. Under a base case scenario, stocks are projected to gradually decline over the course of the season, reaching a level of about 31 million barrels by the end of March 2000 (Figure WF9).

While small in volume, imports provide a crucial source of supply during periods when consumption rates exceed the rates of available supplies from production and inventories. Propane imports are significantly down this year compared with last year's record volume. Through July, propane imports averaged 115,000 barrels per day, 40,000 barrels per day lower than they were during the same 7-month period last year. However, imports during 1998 were abnormally high, as surplus world supply, due to weak demand in both Europe and Asia, caused imports to flood into the United States. Moreover, year-to-date imports through July 1999 were only 2,000 barrels per day below the comparable 5-year average of 117,000 barrels per day.



Figure WF10. U.S. Propane Inventories by PAD District (as of September 30) (million barrels)

Prices Rebound

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.

Residential propane prices are expected to be much higher this year compared with prices last year. Last year's high stocks and relatively mild weather caused both wholesale and residential propane prices to remain unseasonably low for most of the 1998-1999 heating season. However, since April 1999, spot propane prices have increased significantly in response to rising crude oil prices. Under the base case scenario, average residential prices would be expected to increase seasonally from about 96 cents per gallon in September to a winter peak of \$1.12 per gallon in February. Prices would then drift lower and end the season at \$1.09 per gallon (Figure WF11).

Severe Weather Scenario

This scenario assumes that weather, in terms of heating degree-days, will be 10 percent colder than normal (base case) for the entire heating season (October 1999 through March 2000). Such a heating season would be substantially colder than last winter's relatively mild weather.

In this scenario, propane inventories would be projected to end the heating season at about 23 million barrels, nearly 8 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 to reach a maximum price in February of about \$1.21 per gallon, and decline to about \$1.17 per gallon by March 1999, roughly 7 cents over the base case.

Mild 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. Under this scenario, U.S. propane stocks would be projected to end the heating season at about 39 million barrels. This level would be nearly 8 million barrels above the level of the base case scenario and 16 million barrels above the level of the severe case scenario. The impact on residential price would be much less pronounced, which would rise to a season high of \$1.04 cents per gallon by February, then decline to \$1.02 per gallon by March 2000.



Figure WF11. Residential Propane Price: Weather Cases

		History		Base Case								
		1998-1999		1999-2000		Percent Change ^d			Severe	Mild		
	-	Q4	Q1	Winter	Q4	Q1	Winter	Q4	Q1	Winter	Winter	Winter
Demand/Supply												
Distillate Fuel (mill. b	oarrels per day)											
Total Demand		3.45	3.70	3.58	3.63	3.76	3.70	5.2%	1.7%	3.4%	3.80	3.61
Refinery Output		3.36	3.21	3.29	3.54	3.27	3.40	5.3%	1.7%	3.5%	3.46	3.38
Net Stock Withdrawal		-0.04	0.34	0.15	0.03	0.36	0.20	NM	6.3%	30.5%	0.24	0.13
Net Imports		0.13	0.15	0.14	0.07	0.13	0.10	NM	-10.6%	-28.5%	0.10	0.10
Refinery Utilization (percent)		93.1%	91.1%	92.1%	92.7%	90.5%	91.6%				92.1%	91.1%
Natural Gas (bill. cu	ibic feet per day)											
Total Demand		58.01	75.20	66.51	61.66	79.25	70.41	6.3%	5.4%	5.9%	74.00	65.76
Production		51.24	51.24	51.24	51.21	52.40	51.80	-0.1%	2.3%	1.1%	52.82	50.81
Net Stock Withdrawal		2.51	14.31	8.35	5.35	16.08	10.68	113.0%	12.3%	28.0%	13.28	7.75
Net Imports		8.24	9.26	8.74	9.32	9.79	9.55	13.1%	5.8%	9.3%	10.06	9.09
Propane (mill. barre	ls per day)											
Total Demand		1.27	1.45	1.36	1.34	1.42	1.38	5.5%	-2.1%	1.5%	1.36	1.26
Net Stock Withdrawal		0.13	0.32	0.22	0.14	0.22	0.18	6.6%	-31.9%	-20.5%	0.22	0.14
Stocks (ending period	od)											
Distillate Fuel (MMB) - Beg. ^a		153	156	153	146	143	146	-4.4%	-8.3%	-4.4%	143	143
	- End. ^a	156	125	125	143	110	110	-8.3%	-12.1%	-12.1%	99	119
Working Gas (BCF)	- Beg. ^b	2949	2718	2949	2955	2463	2955	0.2%	-9.4%	0.2%	2955	2955
	- End. ^b	2718	1430	1430	2463	1000	1000	-9.4%	-30.1%	-30.1%	525	1536
Propane (MMB)	- Beg. ^a	76.6	64.6	76.6	63.4	50.6	63.4	-17.3%	-21.7%	-17.3%	63.4	63.4
	- End. ^a	64.6	35.9	35.9	50.6	30.8	30.8	-21.7%	-14.1%	-14.1%	22.9	38.6
Prices												
Imported Crude Oil (c/g) $^{\circ}$		25.9	26.0	25.9	56.1	56.7	56.4	117.0%	118.3%	117.7%	58.4	42.4
Retail Heating Oil (c/g)		79.2	80.4	79.8	106.4	111.5	108.9	34.3%	38.7%	36.5%	119.8	98.1
Wellhead Gas (\$/mcf)		1.84	1.74	1.79	2.60	2.39	2.50	41.5%	37.3%	39.4%	2.72	2.37
Resid. Gas (\$/mcf)		6.64	6.09	6.28	7.23	6.75	6.93	9.0%	10.8%	10.2%	7.02	6.89
Resid. Propane (c/g)		84.1	86.6	85.4	104.8	110.9	107.9	24.6%	28.0%	26.3%	114.1	101.7
Market Indicators												
Manuf. Output (inde	ex, 1992=1.0)	1.364	1.369	1.367	1.404	1.392	1.398	2.9%	1.6%	2.3%	1.398	1.398
Northeast HDDs per	r day	20.1	32.0	25.9	22.5	33.1	27.7	11.9%	3.4%	6.9%	30.5	25.0
Gas-Weighted HDDs per day		16.7	25.3	20.9	18.6	26.1	22.4	11.9%	3.4%	6.9%	24.6	20.1

Table WF02. U.S. Winter Fuels Outlook: Base Case and Weather Cases

ammb = million barrels.

^bbcf = billion cubic feet.

^cRefiners' acquisition cost for imported crude oil.

^dPercent changes have been adjusted for leap-year effects.

Notes: 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 CONTROL0999.