

U.S. Distillate Market

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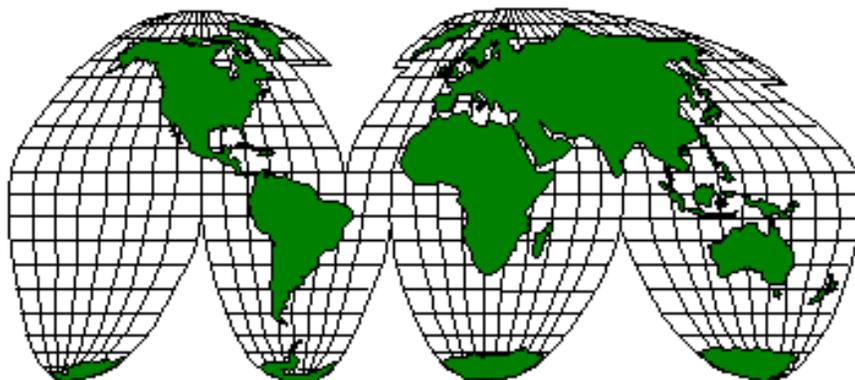
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U.S. Distillate Market



**Jay Hakes, Administrator
Energy Information Administration**

**Providence, Rhode Island
April 7, 2000**

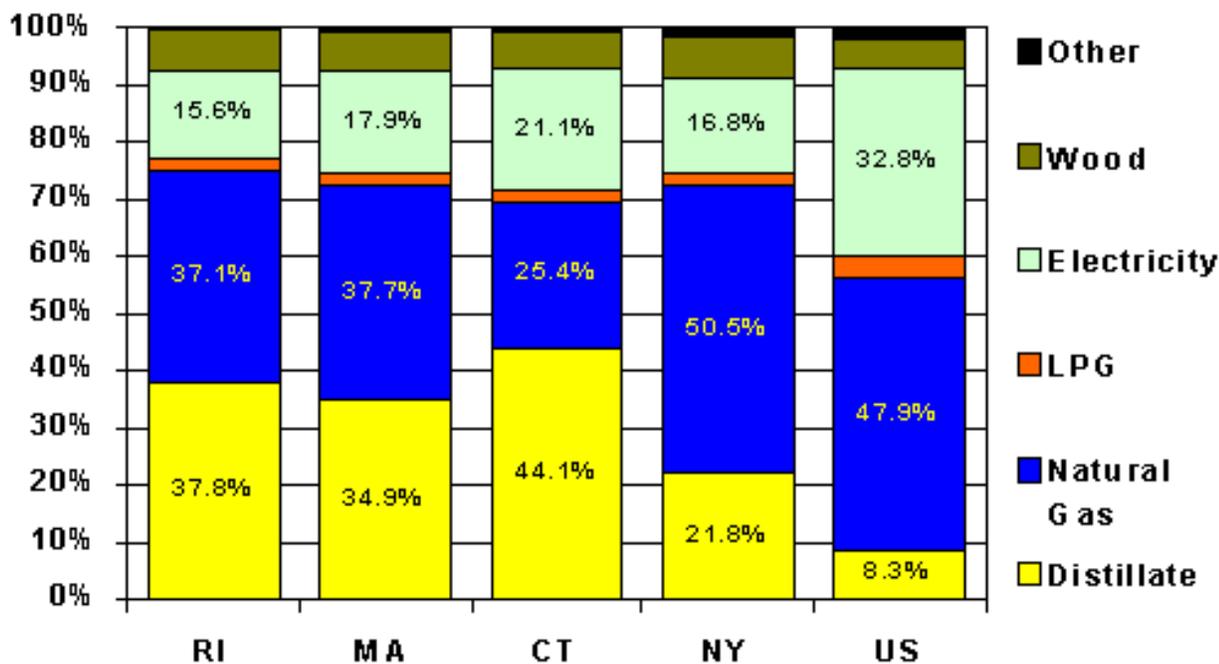


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Notes:

- During the second half of January, diesel and heating fuel prices surged. The largest increases occurred in the distillate-based fuels (heating oil and diesel) in the Northeast.
- The main factors driving up these prices were low stocks leading into January, followed by a bout of severe weather that impacted both supply and demand.
- Warmer weather and the arrival of new supply, mainly imports, relieved the supply/demand imbalance and brought prices back down. The spike is now behind us, but high crude prices are keeping prices above year-ago levels.
- The low stock situation that set the stage for the distillate price spike was not unique to the United States, Low stocks exist worldwide and are not limited to distillate. The low stock situation stems from what is happening in the crude oil markets. A crude oil supply shortage drove crude prices up and caused refiners worldwide to draw down stocks as the higher crude prices squeezed margins.
- Global crude oil fundamentals appear to be easing with OPEC's recent agreement to increase supply, which has already resulted in some downward price pressure. This gradual return to lower prices and higher inventories is expected to continue, but not without continuing risk of volatility.

State Residential Energy Consumption Shares 1996

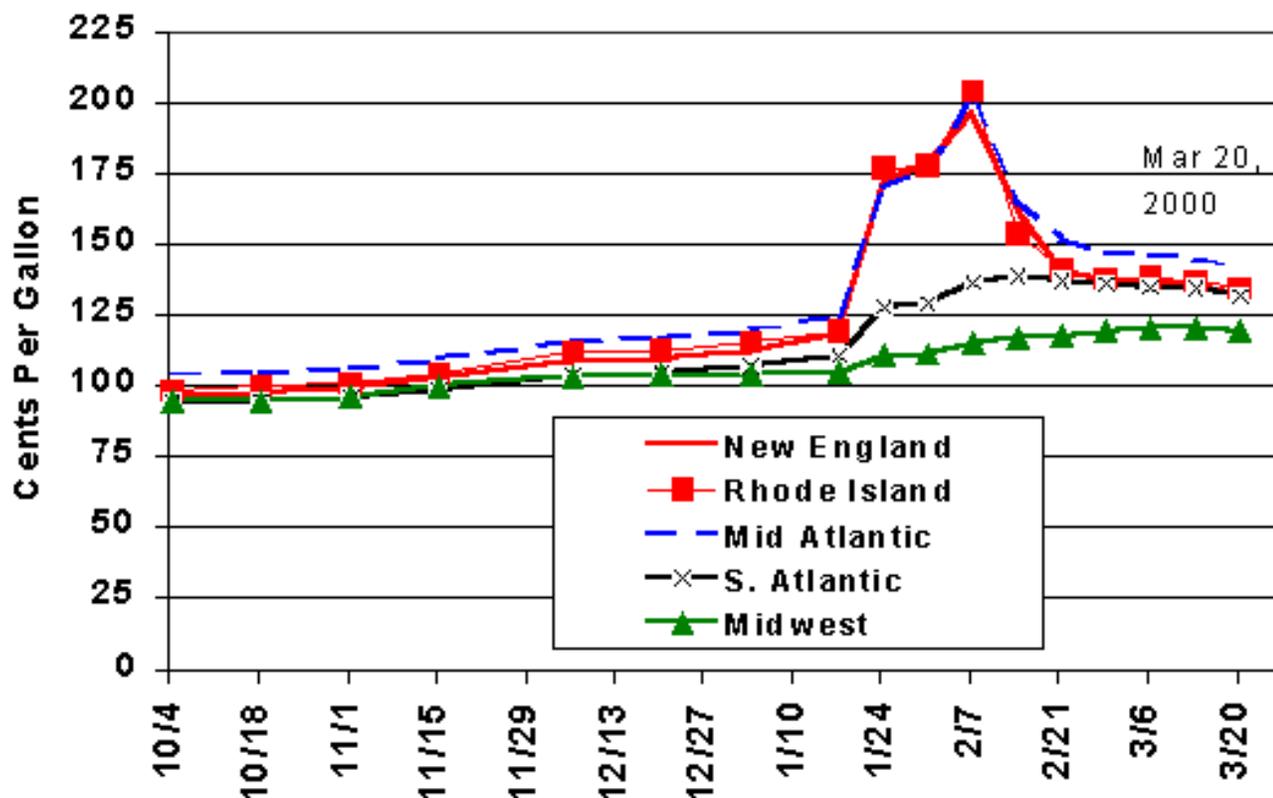


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Notes:

- Residential customers in the Northeast are more heavily dependent on heating oil than are residential consumers in the rest of the country.
- Rhode Island is no exception. In 1996, which is shown here because the weather was more typical than the warm weather of 1997, heating oil comprised about 38% of the energy used in the residential sector -- similar to other states in the Northeast.
- Natural gas serves 37% of the residential market, and electricity meets about 16% of the state's residential needs. Wood is also significant in the Northeast, representing about 7% of residential energy consumed.

Regional Residential Heating Oil Prices



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Notes:

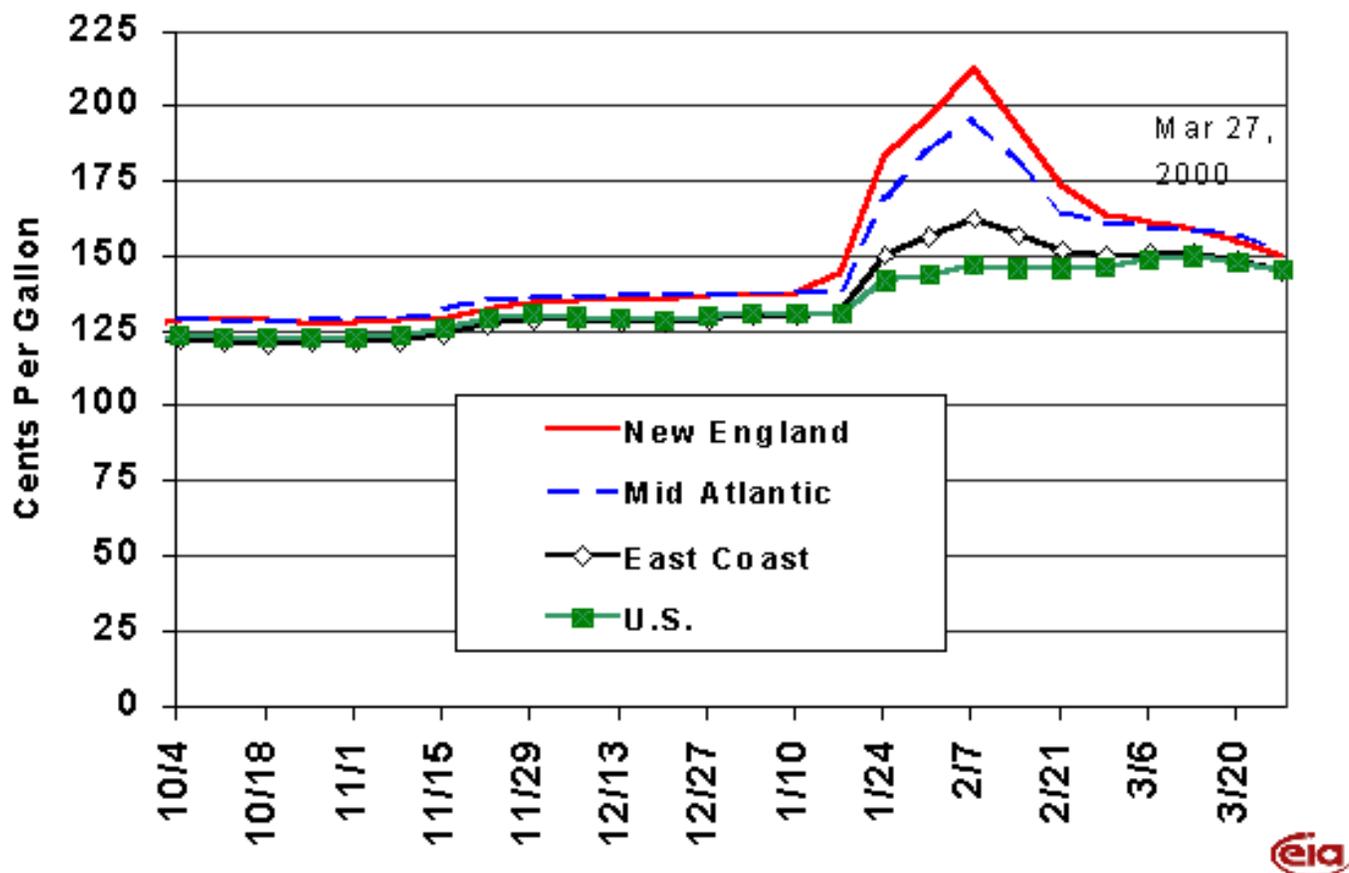
- Residential heating oil customers in the Northeast experienced a severe upsurge in prices in late January and early February this past winter.
- The general level of heating oil prices each year is largely a function of crude oil prices, and over the course of the heating season, prices will usually vary by about 10 cents per gallon. However, exceptions occur in unusual circumstances, such as very cold weather, large changes in crude oil prices, or supply problems.
- Although heating oil prices for East Coast consumers started this winter at similar levels to those in 1997, they had already risen nearly 21 cents per gallon through mid-January. With the continuing upward pressure from crude oil markets, magnified by a regional shortfall of heating oil supplies, residential prices rose rapidly to peak February 7.
- The problem was basically limited to the Northeast. The Midwest saw very little runup. From January 17 to the peak on February 7, Rhode Island prices rose 85 cents per gallon to peak at \$2.04. The Mid-Atlantic rose over 76 cents per gallon, while the South Atlantic increased about 26 cents and the Midwest only increased about 10 cents.

Note:

New England includes: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

Mid-Atlantic includes: Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania.

Retail Diesel Fuel Oil Prices



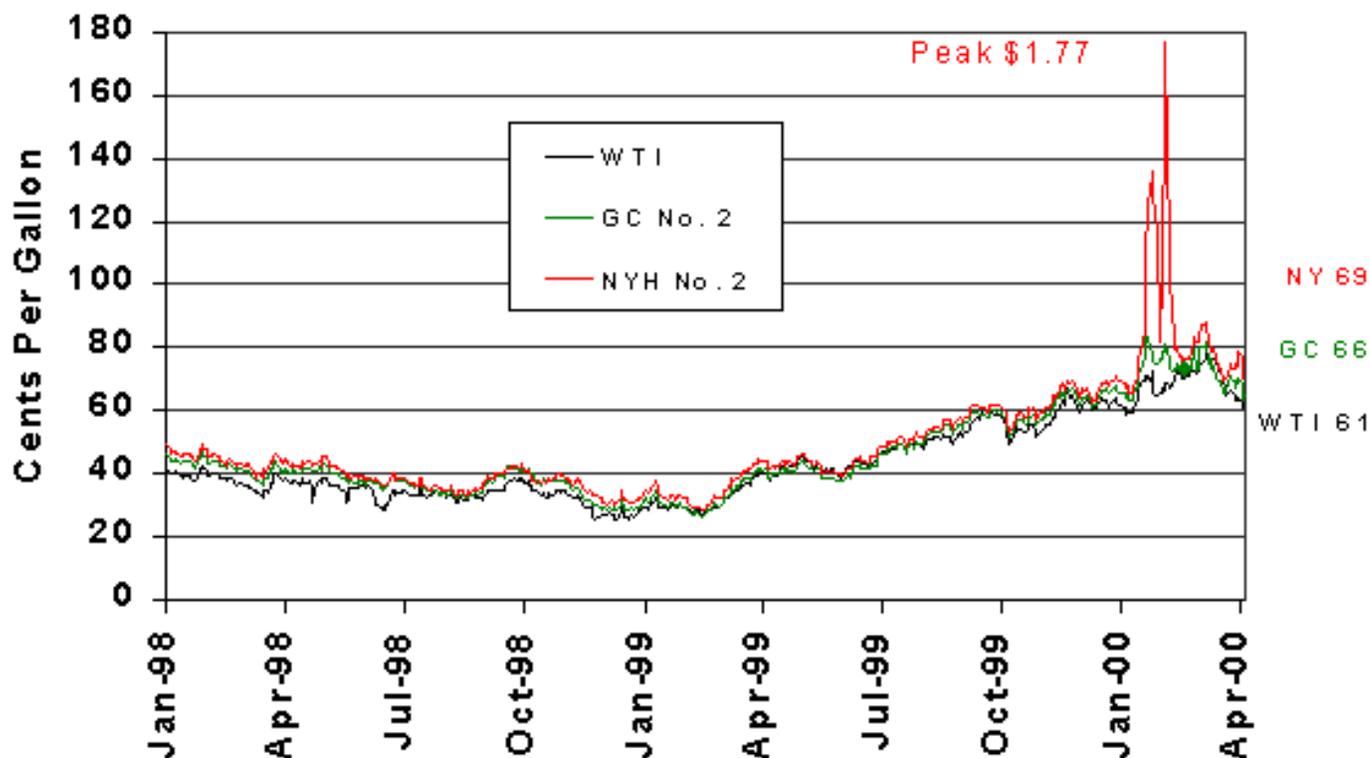
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Notes:

- Along with heating oil prices, the distillate supply squeeze has severely impacted diesel fuel prices, especially in the Northeast.
 - Diesel fuel is basically the same product as home heating oil. The primary difference is that diesel has a lower sulfur content.
 - When heating oil is in short supply, low sulfur diesel fuel can be diverted to heating oil supply. Thus, diesel fuel prices rise with heating oil prices.
- Retail diesel fuel prices nationally, along with those of most other petroleum prices, increased steadily through most of 1999. But prices in the Northeast jumped dramatically in the third week of January.
- Diesel fuel prices in New England rose nearly 68 cents per gallon, or 47 percent, between January 17 and February 7. While EIA does not have weekly diesel price data by state, you can assume Rhode Island was following the New England prices upward. Diesel fuel prices in the Mid-Atlantic region rose about 58 cents per gallon (42 percent) in the same period, compared to an increase of 16 cents in the national average.

Spot Distillate & Crude Oil Prices

(Prices through April 5, 2000)



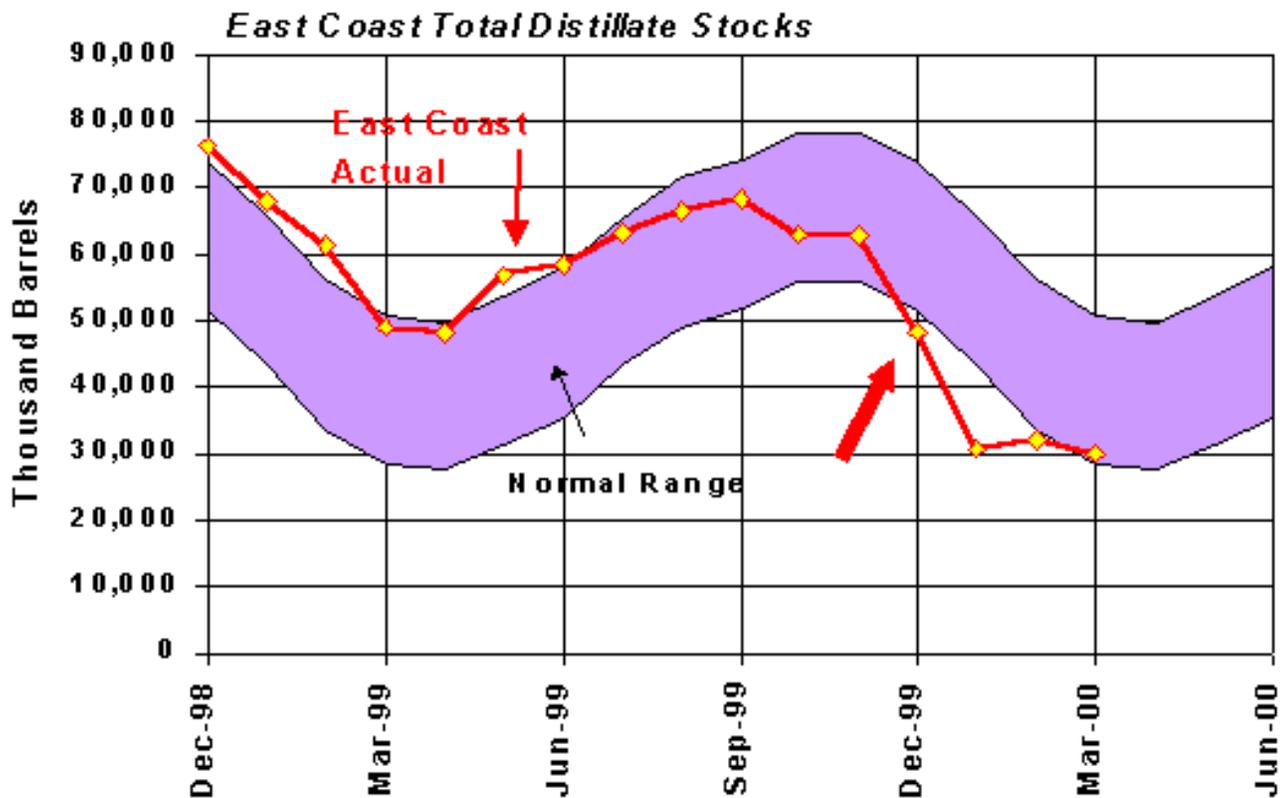
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Notes:

- Retail distillate prices follow the spot distillate markets, and crude oil prices have been the main driver behind distillate spot price increases until mid-January, 2000. WTI crude oil price rose about \$17 per barrel or 40 cents per gallon from its low point in mid February 1999 to January 17, 2000.
- Over this same time period, New York Harbor spot heating oil had risen about 42 cents per gallon, reflecting both the crude price rise and the beginning of a return to a more usual seasonal spread over the price of crude oil.
- The week ending January 21, distillate spot prices in the Northeast spiked dramatically to record levels, closing on Friday at \$1.26 per gallon -- up 50 cents from the prior week. Gulf Coast prices were not spiking, but were probably pulled higher as the New York Harbor market began to draw on product from other areas. They closed at 83 cents per gallon, an increase of 11 cents from the prior Friday. Crude oil had risen about 4 cents from the prior week.
- New York Harbor spot distillate prices remained highly volatile for several weeks. Prices initially peaked on Tuesday, January 25 at almost \$1.36 per gallon before a brief weather respite and signs of cargoes coming to the East Coast encouraged buyers to begin to relax. By January 31, New York heating oil prices had fallen to 82 cents, only to rebound again as cold weather and supply delays continued, peaking February 4, at \$1.77 as weather continued to hinder re-supply. By Thursday, February 10, prices had fallen back to \$0.82.

- What happened the week ending January 21 to set off this price spike?

Low Stocks Set Stage for Price Volatility



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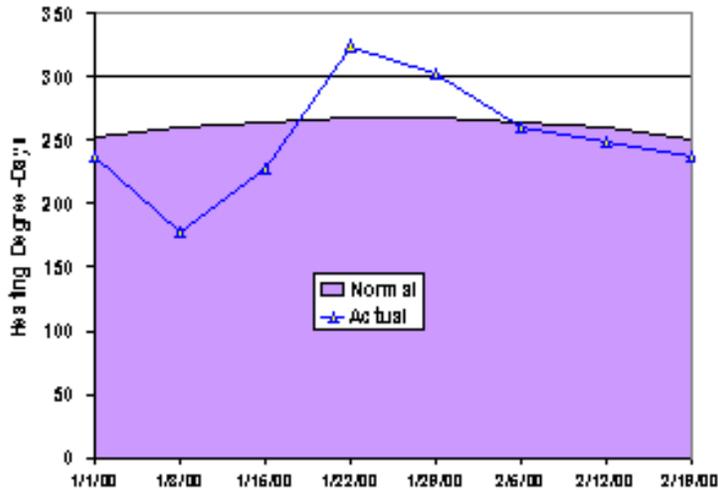
Notes:

- This distillate price spike is a classic response to a local supply and demand imbalance that began as a result of low distillate stocks.
- Low distillate stocks in the winter create the potential for price volatility. In this situation, unexpected high demand from cold weather or sudden loss of supply can quickly deplete low stocks in local areas for a time, requiring unusual movement of stock from other areas. As buyers search for product, they bid prices up rapidly, which attracts product, but the time lag can cause prices to rise very high briefly before product arrives.
- Low stocks of distillate fuels at the end of 1999 left heating oil markets in a vulnerable position. Stocks began the winter of 1999/00 well above average. They deteriorated somewhat as low margins kept refiners from continuing to build inventories along the lines of the normal pattern. Stocks were still well within the normal range at the end of November, but declined much more than usual in December, ending the year 6% below the low end of the normal range.
- Thus, as we went into our two biggest distillate demand months, January and February, U.S. distillate stocks were very low -- particularly on the East and Gulf Coasts. The East Coast is the primary heating oil region, and it depends heavily on production from the Gulf Coast as well.

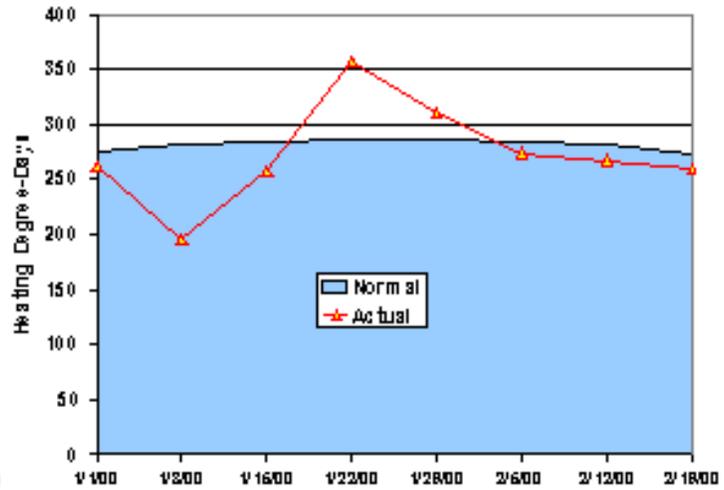
Late January Cold Impacted Both Supply & Demand

Weekly Heating Degree-Days

Mid Atlantic



New England

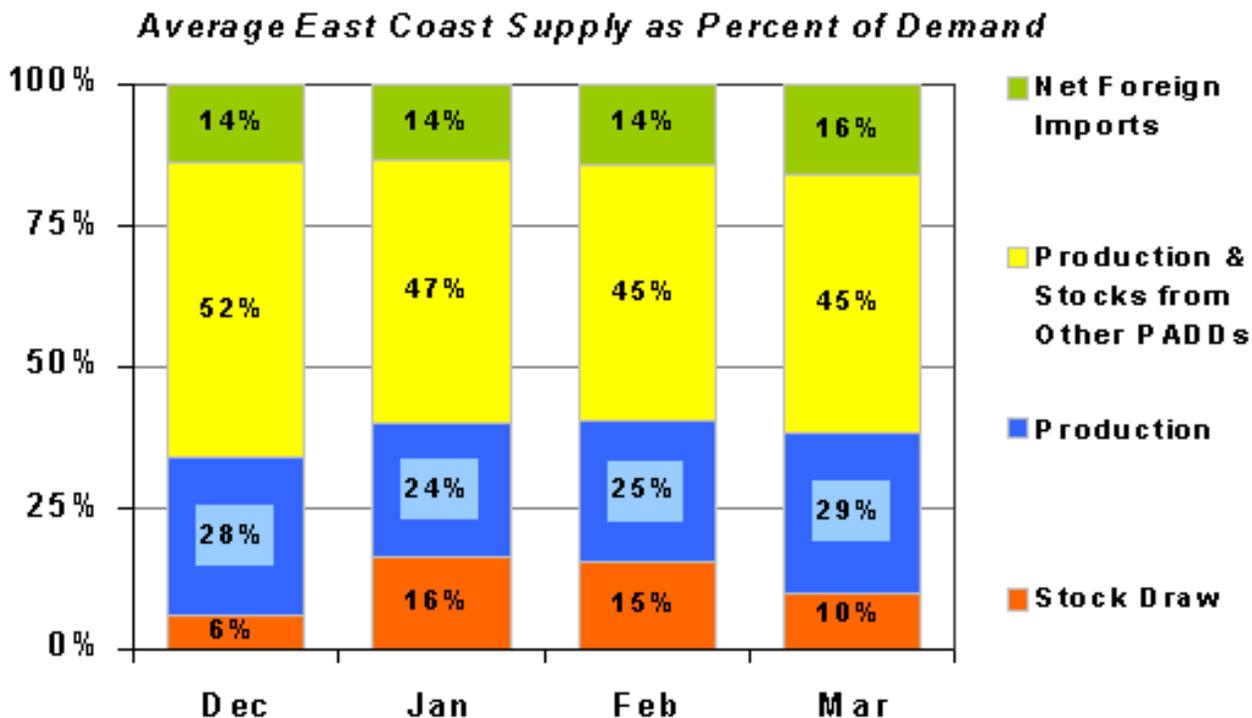


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Notes:

- A brief cold spell occurred in the second half of January on top of the low stocks. Cold weather increases demand, but it also can interfere with supply, as happened this past January.
- During the week ending January 22, temperatures in the New England and the Mid-Atlantic areas shifted from being 15 percent and 17 percent warmer than normal, respectively, to 24 percent and 22 percent colder than normal. The weather change increased weekly heating requirements by about 40 percent.
- Temperature declines during the winter affect heating oil demand in a number of ways:
 - Space heating demand increases;
 - Electricity peaking demand increases and power generators must turn to distillate to meet the new peak needs;
 - Fuel switching from natural gas to distillate occurs among large customers with dual fuel capabilities, some by choice if distillate is cheaper, and some by the terms of their natural gas contracts.
- The weather not only increased demand, but high winds and frozen rivers kept barges from landing, further hindering re-supply.

Distillate Stocks Are Important Part of Northeast Winter Supply



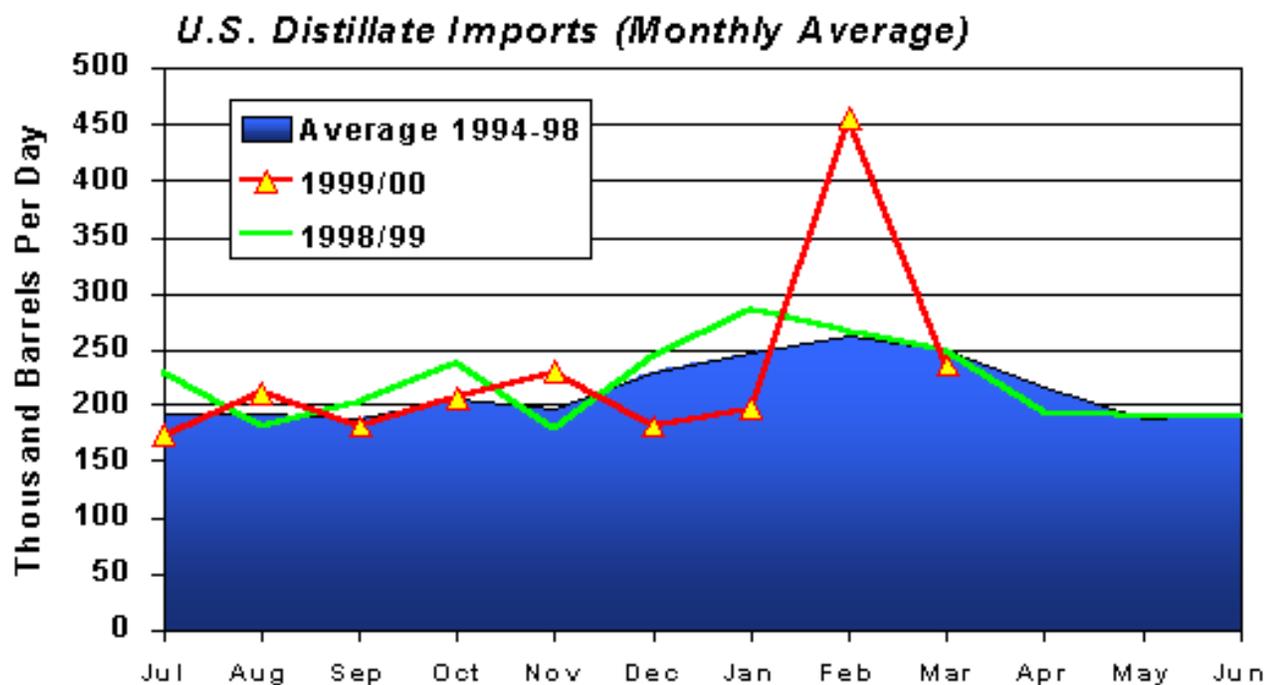
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Notes:

- The weather alone was not enough to cause the price spike. The low stocks left the area vulnerable to sudden changes in the market, such as the weather change. Why do stocks matter in the Northeast?
- Stocks are normally an important part of PADD 1 winter distillate supply. Over the last 5 years, PADD 1 stocks provided about 15% of supply during the peak winter months of January and February. They are the closest source of supply to the consumer. PADD 1 depends on about 60% of its supply from distant sources such as the Gulf Coast or imports, which can take several weeks to travel to the Northeast. Even product from East Coast refineries, if capacity is available, may take a week before it is produced and delivered to the regions needing new supply. Thus, stocks must be able to meet supply deficits for some time before much new supply can arrive.
- In PADD 1 this past January, stocks supplied 566 thousand barrels per day or 34 percent of total distillate demand, compared to the usual 16 percent. The high sulfur stocks alone fell 481 thousand barrels per day, covering 48 percent of the East Coast high sulfur heating oil demand that month.
- While other regions had low stocks and cold weather, the Northeast saw the unusual heating oil and diesel fuel price surges as a result of:
 - Its being the largest regional market in the country for heating oil, representing about two thirds of total U.S. heating oil used during the peak winter demand months;

- Its heavy reliance on stocks during the peak winter demand months;
- Its reliance on waterborne supply that can be affected by cold weather; and
- Its large, short-term swings in demand coming from the large utility and interruptible gas consumers jumping into the heating oil market, on top of the increase in demand from home heating oil customers.

Distillate Imports Surged to Meet Supply/Demand Imbalance

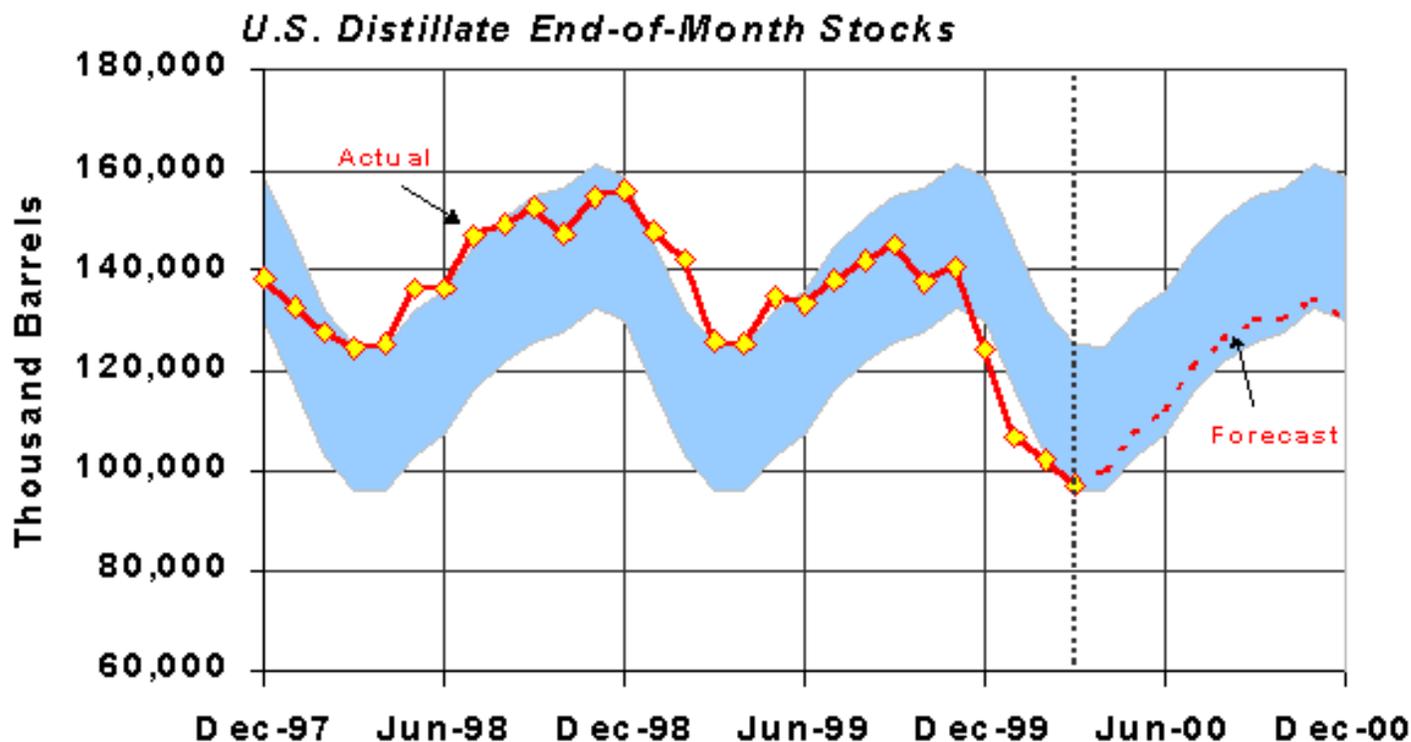


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Notes:

- Prices receded when weather moderated and new supply began to arrive.
- Imports were the largest source of new supply that arrived to relieve the imbalance that was behind the price spike. This graph shows the dramatic increase on a calendar monthly average basis.
- During the three weeks ending February 25, distillate fuel oil imports averaged 566 thousand barrels per day. During the prior four weeks, imports only averaged 162 thousand barrels per day.
- Refinery production on the East Coast also increased. For the three weeks ending February 25, East Coast distillate production averaged 478 thousand barrels per day, which was an increase of about 91 thousand barrels per day or 24% over the prior four weeks. (During the same time period, national distillate production only rose 7 percent.)

Forecast U.S. Distillate Stocks



Source: EIA

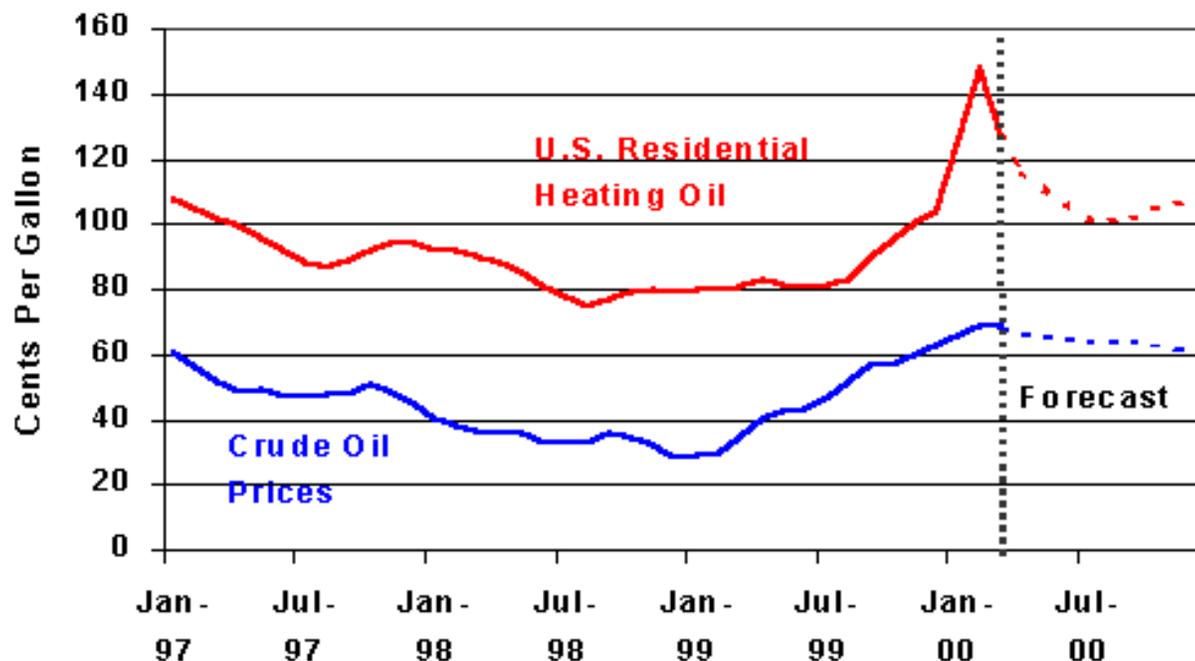


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Notes:

- Continued mild weather and the new supply that arrived allowed stocks in the Northeast to stop dropping and hold steady.
- At the national level, stocks dropped a little further, but entered the low end of the normal band in March.
- EIA is not projecting a large recovery over the summer, but because refineries are forecast to run at high utilization rates, they may produce more distillate than expected and allow us to rebuild to more comfortable levels.

Forecast Prices (U.S. Monthly Average)



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Notes:

- Prices have already recovered from the spike, but are expected to remain elevated over year-ago levels because of the higher crude oil prices.
- There is a lot of uncertainty in the market as to where crude oil prices will be next winter, but our current forecast has them declining about \$2.50 per barrel (6 cents per gallon) from today's levels by next October.
- U.S. average residential heating oil prices peaked at almost \$1.50 as a result of the problems in the Northeast this past winter. The current forecast has them peaking at \$1.08 next winter, but we will be revisiting the outlook in more detail next fall and presenting our findings at the annual Winter Fuels Conference.
- Similarly, diesel prices are also expected to fall. The current outlook projects retail diesel prices dropping about 14 cents per gallon from their U.S. March average of \$1.49 per gallon to about \$1.35 by the middle of summer. They are not expected to drop much further by the end of the year under the base case crude price scenario.