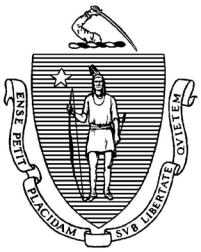

Commonwealth of Massachusetts

Division of Energy Resources

State Heating Oil & Propane Program

Final Report

Winter 2003/2004

April 2004

Mitt Romney
Governor

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INTRODUCTION

During the 2003/04 heating season, the Massachusetts Division of Energy Resources (DOER) continued its annual participation in the US Department of Energy's *State Heating Oil and Propane Program* (SHOPP). The purpose of the program is to collect and monitor retail heating oil and propane prices from October through March. This program augments existing DOER data collection efforts and serves several important purposes. The information provides policy-makers with timely, accurate and consistent data to monitor current heating oil and propane markets and develop, when necessary, appropriate state responses to potential fuel problems. The information also helps the federal and state governments respond to consumer, congressional and media inquiries regarding heating oil and propane.

The following report summarizes the results from the Massachusetts retail heating oil and propane price surveys, including supply and demand events that affected those markets. Also included are a seasonal overview and summary of how the SHOPP program is used to augment DOER functions.

Findings

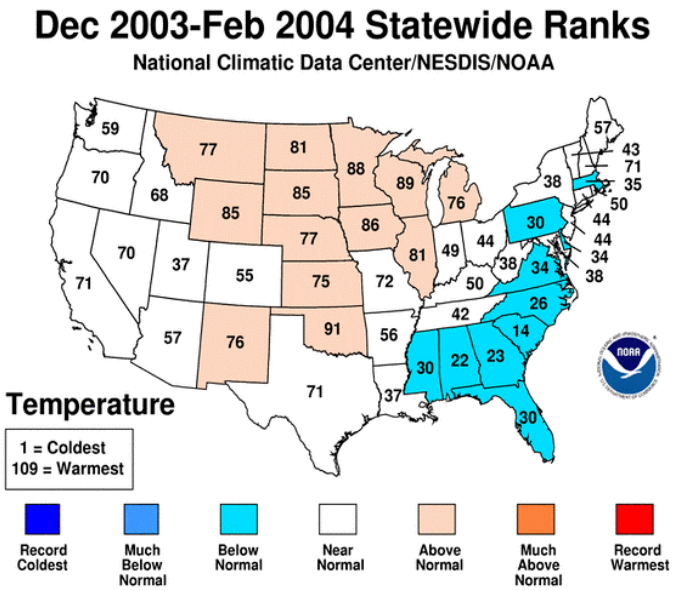
- *Massachusetts Only New England State With Below Normal Temperatures*
- *Severe January Cold Snap Strains Supplies And Raises Prices*
- *High Oil Crude Prices Impact Prices For Winter Fuels*
- *Winter Fuels Avoid Price Spikes*
- *SHOPP Data Used To Support DOER Activities*

Massachusetts Only New England State with Below Normal Temperatures

As in any winter, how high or low prices are depends largely on the weather. Colder weather strengthens demand, which can lower supplies and cause higher prices. Conversely, warmer weather weakens demand, which tends to increase supplies and lower prices. This winter, Massachusetts experienced dramatic swings in temperatures from above normal in the early part of the season, to bitter cold in the middle and finally normal in the end.

According to early season forecasts from the National Oceanic and Atmospheric Association (NOAA), Massachusetts and the rest of New England had an equal chance for normal, above normal, and below normal temperatures. As it happened, most of New England had normal winter temperatures. However, Massachusetts ended the winter as the only state in the region with below normal temperatures, finishing the season at 2% below normal. Figure 1 shows the winter temperatures across the United States.

Figure 1



Despite the below normal temperatures, Massachusetts was 7% warmer than last year[1]. According to NOAA, this winter also had below normal snowfall in January and February with December and March being average. This was in contrast to last winter, when Boston had its 6th snowiest winter on record including a February blizzard. The early December storm that dumped 25 inches in and around Boston, was the high point for snowfall this season.

Severe January Cold Snap Strains Supplies and Raises Prices

Even with the forecast for a normal winter, state energy offices expected higher prices and demand for space-heating fuels compared to last winter. High demand last winter meant tighter supplies, leading to the expectation of higher prices. Inventories for both propane and heating oil started out the season well below last year's levels. The season began with high crude oil and natural gas prices due to record demand from the previous winter.

The warmer than normal weather in the early part of the season helped inventories build and kept price increases moderate. This was highly beneficial to the energy sector as January set records for below normal temperatures. January was the second coldest month on record going back over 100 years to 1893[2].

This severe weather led to price increases for all winter heating fuels and strains on supplies. By the end of January, Heating oil hit its season high at

[1] Based on Heating Degree Days
[2] NOAA

$163.4, up 15 cents from the beginning of the month. Propane went up 10 cents to $1.67, and in the first week in February hit its season high of $1.69. Natural gas wholesale prices also spiked during this period. On January 15th, prices in New England hit $51.66/MMbtu[3], almost twice as high as last season's high price of $29.48 from February 2003.

The spike in wholesale natural gas prices was indicative of supply issues along the East Coast. As the temperatures reached near record lows for the week of January 16th, gas demand spiked for both heating and electric generation. Both the Northeast Gas Association (NEGA) and the Independent System Operator in New England (ISO-NE, which manages the power grid) issued conservation alerts on reports of potential gas shortages. Some residents in Hull, MA did lose their gas service because they were at the end of the pipeline and there wasn't enough pressure in the pipelines to get gas to their houses.

High Crude Oil Prices Impact Prices for Winter Fuels

The average spot price per barrel of WTI crude oil in October 2003 was $30, compared to $29 in October 2002. The WTI seasonal average was $33 per barrel same as last season's $33 average. Last season's high prices were largely due to a strike in Venezuela and the War in Iraq. This season continued unrest in Iraq coupled with low inventories in the US helped to keep prices high throughout the winter. By February, prices were at $34/barrel and increasing. Also in February, OPEC announced that it would cut production by 1 million barrels, leading to a tightening in the market. High crude prices kept both heating oil and natural gas prices from dropping significantly when temperatures moderated later in the winter. Crude oil prices ended the season around $37/barrel.

The October 2003 Henry Hub spot price of natural gas averaged $5.17 per million BTU compared to $4.38 per million BTU October 2002[4]. The New England seasonal average was $5.42 per million BTU compared to last season's $7.03 per million BTU average. Spikes in prices in January helped to keep natural gas prices around last year's prices.

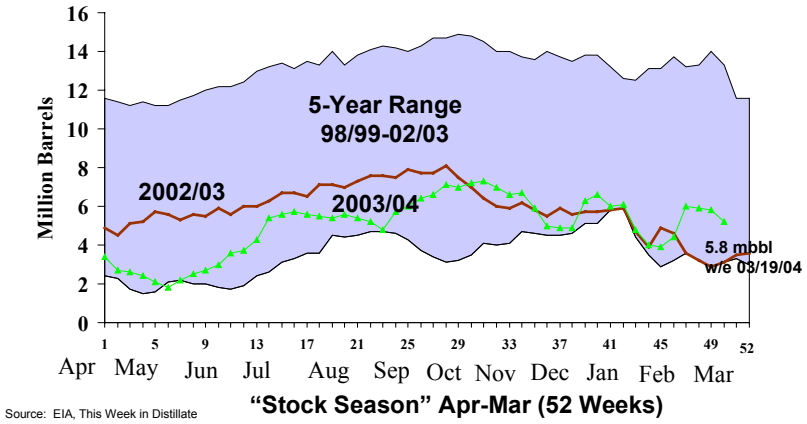
Normal Winter Temperatures Overall Helped Inventories Build

Due to the previous winters draw down on inventories, New England heating oil inventories started the heating season 14% below the inventories of the previous October. However as the winter progressed and most of New England experienced normal winter temperatures, stocks were able to rebuild from last winter to end the season 49% above last year's levels. Even with the

[3] Gas Daily
[4] IBID

increase, stocks remained at the low end of the five-year average. Figure 2 illustrates heating oil stock movement over the past year.

Figure 2:
Weekly New England Heating Oil Stocks



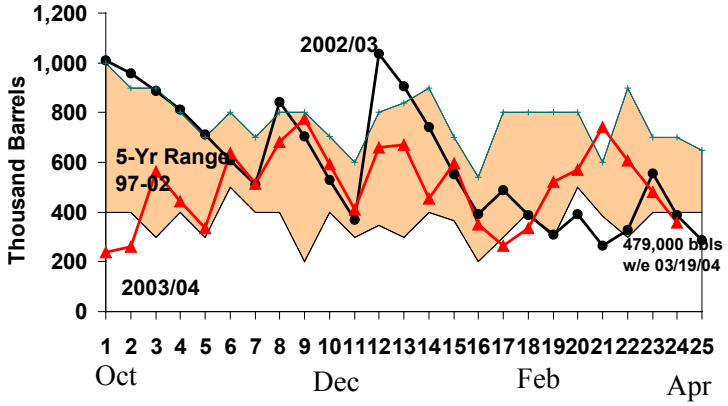
Source: EIA, This Week in Distillate

Sales of No. 2 fuel oil (heating oil) in New England account for approximately 31% of total East Coast sales, with sales in Massachusetts accounting for 36% of total New England sales. Approximately 40% percent of homes in Massachusetts heat with fuel oil.

In the Northeast, propane demand is highly seasonal and its price is influenced by several factors including weather, inventory levels, and the price of crude oil and natural gas.

As the season began, propane stocks on the East Coast were 76% below last year's level, leading to higher prices from the beginning of the season. Large draws from the previous winter and problems along the pipelines that service the East Coast contributed to these low inventories. Inventories continued to be erratic throughout the winter, one week they were well below the previous year's levels, the next, they were higher. Problems in January and February along the Teppco Pipeline that services storage caverns in New York, also tightened propane supplies. Shipments by marine transportation were critical to keeping supplies coming into New England, mostly to terminals in New Hampshire and Rhode Island. Icing in the waterways during the January cold snap, delayed shipments into Rhode Island for a time, but the Coast Guard was able to break the ice in the Narragansett and Cape Cod Bays to get the shipments into port. Figure 3 illustrates the up and down nature of propane supplies throughout the winter.

Figure 3
Weekly New England Propane Stocks



Source: EIA, This Week In Propane

Sales of propane in New England account for approximately 9% of total East Coast sales, with sales in Massachusetts accounting for 16% of total New England sales. Nearly 3% of homes in Massachusetts heat with propane.

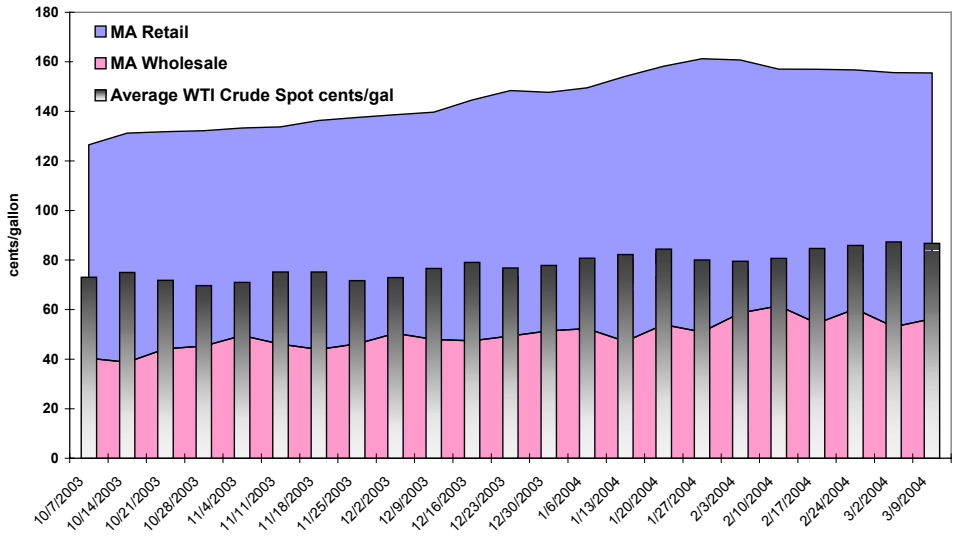
Finally, Natural Gas stocks avoided the large draws that characterized last winter. This helped to keep prices of gas from spiking throughout the winter, though prices still did not return to pre-2002/2003 levels.

Winter Fuels Avoid Price Spikes

As previously mentioned, Massachusetts finished the winter season with temperatures that on average were slightly below normal. However, this winter was still warmer than the one of 2002/2003. Even with the lower inventory levels that started the season, heating fuels avoided the severe price spikes that characterized last winter.

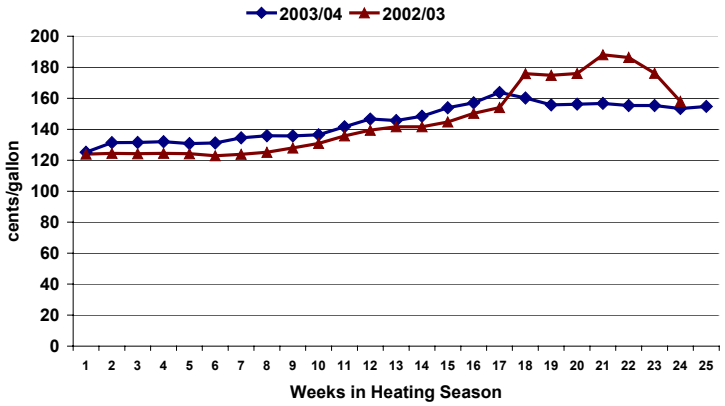
In addition to colder than normal temperatures, high crude oil prices persisted through the season affecting wholesale heating oil prices and translating into higher average retail prices. The average wholesale price in MA for the season was 96 cents per gallon and the average wholesale to retail mark-up per gallon was 50 cents, but varied 59% between a low of 38.8 cents and a high of 61.5 cents. Figure 4 shows how MA retail prices compared to MA wholesale prices and crude oil during the 2003/04 season.

Figure 4
Wholesale and Retail Prices for No. 2 Heating Oil in MA Compared to U.S. Crude Winter 2003-2004



The average retail price per gallon of heating oil in October 2003 was $1.30, compared to $1.24 in October 2002. The high and low price, respectively, of the 2003/04 winter was $1.64 per gallon compared to $1.88 the previous year and $1.25 compared to $1.22. Figure 5 illustrates that this season's prices started out higher than last season's but avoided the prices spikes at the end of the winter.

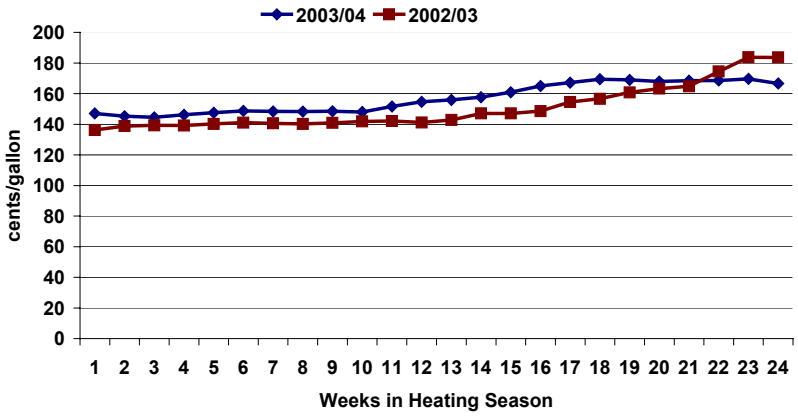
Figure 5
Weekly MA Heating Oil Prices



Overall, this winter's prices were slightly higher, averaging 2% more into February. However, by avoiding the price spikes at the end of the season, ***the average price per gallon for the winter 2003/04 was $1.45 same as last year.*** Prices ended the season 2% below last year's prices.

Propane prices also started the season higher than the previous year. In October 2003, the average retail price per gallon of propane was $1.47 compared to $1.36 in October 2002. Propane was also affected by higher natural gas spot prices. Additionally, the aforementioned pipeline problems kept supplies tight and prices higher than last year (Figure 6).

Figure 6:
Weekly Residential Propane Prices



This winter's propane price averaged 4% higher than last season through most of the season. The high price of the winter was $1.70 per gallon compared to $1.84 last winter and the low was $1.45 compared to $1.36. Overall, the high and low differed by 17%, compared to last season's 35% price spread. ***The average price per gallon for the winter 2003/04 was $1.57 compared to $1.50 last year.***

On average, Massachusetts propane customers spent up to 4% more on their heating bills compared to last winter and ended the season 14% lower than last year.

Natural gas wholesale prices for New England started at $4.84/mmbtu for the 2003/04 winter season. During 2002/03, prices started at $3.95/mmbtu for New England. The higher price this season was largely due to the recouping of costs associated with the high demand during 2002/03. Natural gas ended the winter at $6.14/mmbtu compared with $5.41/mmbtu at the end of 2002/03. While the weather was more moderate than the previous winter, demand remained steady keeping prices approximately a dollar higher throughout this year.

SHOPP Data Used to Support DOER Activities

One of DOER's most important functions is to provide accurate and timely information on energy prices and supplies to the government, media and consumers of the Commonwealth. SHOPP is a valuable asset to the data

collection and price monitoring activities involved in this function. It enables DOER to provide information to policy makers who must act quickly in the event of an emergency. Among the uses of the SHOPP information is the New England States' and Energy Industry Weekly Conference Calls.

From October through March, DOER's staff participates in weekly conference calls regarding the winter fuels situation. The calls are hosted by the New England Governors' Conference (NEGC) and participants include energy offices in New England and New York; energy industry representatives including the Northeast Gas Association, ISO-New England; the U.S. Coast Guard, Massachusetts Petroleum Council and the U.S. DOE. Participants exchange data about heating oil, natural gas and electricity winter supplies and prices. These discussions also include status reports on the Northeast Heating Oil Reserve. In past winter seasons, this group has exchanged ideas on alleviating potential energy problems and informed each other of emergency initiatives and consumer education programs in their respective states.

This winter, DOER used information from its SHOPP surveys and the NEGC calls to advise the Massachusetts Emergency Management Agency (MEMA) on whether it should issue driver hour waivers for truck drivers of heating fuels. During January's bitter cold snap, MEMA called several times about waivers. DOER was able to advise MEMA on supply and transportation issues such as, inventory levels, icing in key harbors and pipeline problems. Using this information, MEMA granted waivers for drivers for several weeks in January.

Other meetings attended by DOER that utilize SHOPP data include the Massachusetts Department of Housing and Community Development's (DHCD) Energy Advisory Meetings. As part of its duties under its management of the Commonwealth's Weatherization Assistance Program (WAP), DHCD holds quarterly meetings on its weatherization and Low-Income Home Energy Assistance Program (LIHEAP), also known as fuel assistance. As a member of this group, DOER provides information on prices and supplies. DHCD briefs group members on the status of these federal programs including funds, allocations, and number of recipients.

DOER is also a member of the **Energy Benefits Task Force**. This task force meets throughout the year to develop marketing strategies for energy programs including fuel assistance, energy efficiency and utility discounts programs. Members of this group include gas and electric utilities, consumer advocates, state agencies (mainly DOER and DHCD), and community action agencies. This past year, the utilities began a campaign promoting both fuel assistance and energy efficiency programs called, "Energy Bucks". Using a diversified media campaign that included radio and transit ads, the groups reached out to consumers during November-February. The utilities are now deciding whether to continue the campaign through 2006.

SHOPP data is also important to DOER's role providing consumer information. DOER collects and posts pricing information from the SHOPP surveys for heating oil and propane on our website, www.mass.gov/doer. This information is updated weekly during the winter and monthly during the off-season. Numerous groups and consumers use these surveys to measure their prices. DOER's website also contains consumer tip sheets for fuel assistance, oil heat contracts, oil heat maintenance, and natural gas.

In addition to our own website, DOER maintains the Commonwealth's **Winterheating.com** website and **Energy7 Hotline**. Started in late 2001, Winterheating.com and the Energy7 Hotline are part of the state's effort to coordinate information on the Commonwealth's Energy Services. Besides DOER, other agencies linked to the Winterheating.com include DHCD, the Department of Telecommunications and Energy (DTE), and the Division of Standards.

Using data complied through SHOPP, DOER sends a weekly status report its parent agency, the Massachusetts Office of Consumer Affairs and Business Regulation, outlining major industry news, and the status of heating oil, propane, natural gas prices and inventories. The report is a compilation of DOER surveys, U.S. DOE/EIA reports, and news clippings.

The SHOPP program is a critical component in DOER's mission to provide accurate energy price information to the Commonwealth and its citizens. Massachusetts residents traditionally endure long and cold winters and knowing what prices are as well as where they are headed is extremely important. For these reasons, DOER looks forward to its continued participation in SHOPP.