

EIA-Short-Term Energy Outlook – Highlights

- Temperatures east of the Rocky Mountains have been significantly colder this winter (October - January) compared with the same period both last winter and the previous 10-year average, putting upward pressure on consumption and prices of fuels used for space heating. U.S. average heating degree days were 12% higher than last winter (indicating colder weather) and 8% above the previous 10-year average. The Northeast was 11% colder than last winter, the Midwest 17% colder, and the South 20% colder, while the West was 3% warmer.
- The cold weather has had the greatest effect on propane prices, particularly for consumers in the Midwest. Cold temperatures have tightened supplies in the East and Midwest regions that were already low heading into the winter heating season. Residential propane prices in the Midwest rose from an average of \$2.08 per gallon (gal) on December 2, 2013, to \$4.20/gal on January 27; prices fell back to \$3.83/gal on February 3. EIA now expects that propane prices in the Midwest will average \$2.41/gal over the winter (39% higher than last winter) while those in the Northeast will average \$3.43/gal (14% higher than last winter).
- While the North Sea Brent crude oil monthly average spot price fell by almost \$3 per barrel (bbl) from December to January, cold temperatures have tightened heating oil supplies and helped drive up retail prices. Weekly U.S. residential heating oil prices increased by \$0.14/gal between the end of December and end of January. Despite the recent increases, EIA expects that U.S. heating oil prices will average \$3.82/gal this winter, \$0.05/gal (1%) lower than during last year's winter heating season.
- Cold weather also contributed to a [new record-high withdrawal of natural gas from storage](#) and a surge in natural gas spot prices. Natural gas working inventories on January 31 totaled 1.92 trillion cubic feet (Tcf), 0.78 Tcf below the level at the same time a year ago and 0.56 Tcf below the previous five-year average (2009-13). Henry Hub natural gas spot prices increased from \$4.32 per million British thermal units (MMBtu) on January 2 to \$5.66/MMBtu on January 27, before falling back to \$5.04/MMBtu on January 31. EIA expects that the Henry Hub natural gas spot price, which averaged \$3.73/MMBtu in 2013, will average \$4.17/MMBtu in 2014, an increase of \$0.27/MMBtu from last month's STEO. Residential natural gas prices are expected to average \$10.16 per thousand cubic feet (Mcf) this winter, an increase of \$0.41/Mcf (4%) from last winter.

For additional energy related information and data visit the EIA website at <http://www.eia.gov/>

Editor's Note: Data presented in the *Vermont Fuel Price Report* as in the past, is collected on the first Monday of the month.

Other Energy Items of Interest from EIA and other Sources

The Energy Information Administration has set up a Propane page at:

<http://www.eia.gov/special/alert/propane/>

Quadrennial Energy Review to be led by the Department of energy will focus on the Nation's infrastructure for transporting, transmitting, and delivering energy. This would include addressing the current issues with the capacity to supply propane. This will provide State the opportunity to raise issues and suggest solutions to strengthen the energy infrastructure and improve its resilience. that need to be addressed For further details see the Presidential Memorandum: [Quadrennial Energy Review](#)

Residential space heating statistics are available that show by State and county the number of home heated by fuel source from the U.S. Census Bureau, 2008-2012 American Community Survey. This would be helpful to identify areas of the state that are more heavily dependent on one fuel vs. others. This data is available at: <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t#5yrfeature> You need to search for your state by county for all counties within your state under housing physical characteristic heating fuels. Once you have located the data you can generate a shaded state map of the numbers by county.

Enterprise to ship additional propane to ease U.S. shortage

Source: Reuters - Mon, 10 Feb 2014 04:05 PM Author: Reuters

NEW YORK, Feb 10 (Reuters) - Enterprise Product Partners LP said on Monday it would ship more propane to the U.S. Northeast and Midwest after a federal regulator ordered shipments of the heating fuel to be prioritized as a brutal cold grips the region.

Enterprise said it would inject an additional 150,000 barrels of propane into its pipeline on Monday and an additional 350,000 barrels on Thursday.

The 20-inch TE Products pipeline, running from the Gulf Coast to the Northeast and Midwest, resumed normal operations late on Saturday after an outage had shut operations between Texas and Arkansas, Enterprise told shippers on Sunday.

The pipeline ships diluents, gasoline as well as other natural gas liquids aside from propane. Enterprise said delivery of other refined products will be delayed by 36-48 hours due while it prioritizes propane shipments.

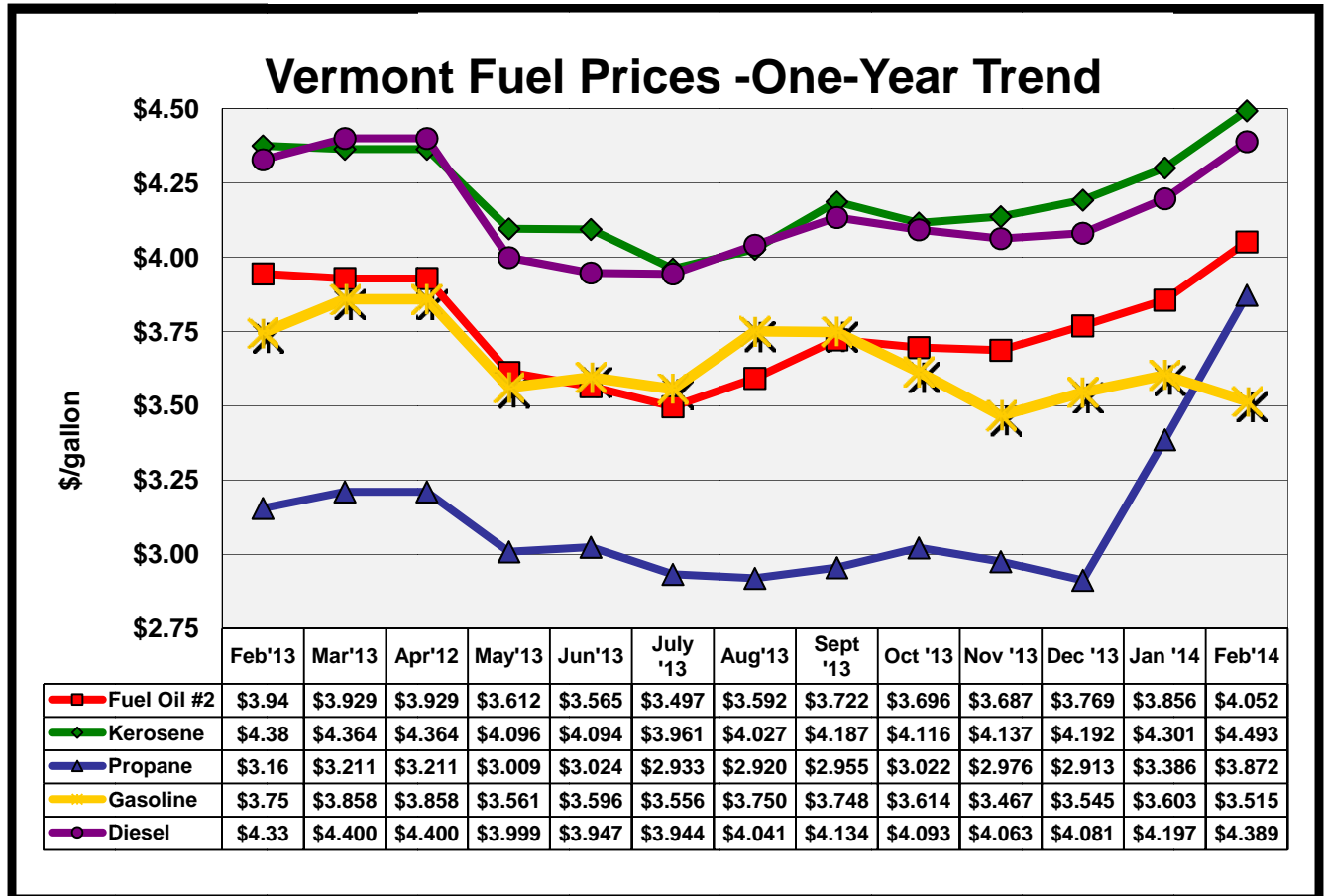
A combination of high demand due to a cold winter and a late harvest and historically low inventories has led to the shortages around the upper Midwest causing governors of several states to declare states of emergency.

Propane prices at Conway, Kansas, a storage hub, spiked to a record \$5 a gallon at the end of January but have since come down to pre-crisis levels at below \$2 a gallon.

NOTE: The Vermont Fuel Price Report is published monthly by the Vermont Department of Public Service. Prices are collected on or about the first Monday of each month and reflect dealer discounts for cash or self-service, except propane prices, which are an average of the credit and discount price. Propane prices are based on 1,000 + gallons. For more information please contact Mike Kundrath at (802) 828-4081 or by email at michael.kundrath@state.vt.us.

Vermont Fuel Price Report

February
2014



Vermont Average Retail Petroleum Prices (per gallon)					
	Feb'14	Jan '14	%change	Feb'13	%change
No. 2 Fuel Oil	\$4.052	\$3.856	5.08%	\$3.944	2.73%
Kerosene	\$4.493	\$4.301	4.47%	\$4.375	2.69%
Propane	\$3.872	\$3.386	14.36%	\$3.155	22.73%
Reg. Unleaded Gasoline	\$3.515	\$3.603	-2.43%	\$3.745	-6.14%

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Comparing the Cost of Heating Fuels				
<u>Type of Energy</u>	<u>BTU/unit</u>	<u>Adj Effic</u>	<u>\$/unit</u>	<u>\$/MMBtu</u>
Fuel Oil, gallon	138,200	80%	\$4.05	\$34.88
Kerosene, gallon	136,600	80%	\$4.49	\$39.35
Propane, gallon	91,600	80%	\$3.87	\$46.21
Natural Gas, therm	100,000	80%	\$1.46	\$18.28
Electricity, kWh (resistive heat)	3,412	100%	\$0.15	\$43.46
Electricity, kWh (cold climate heat pump)	3,413	300%	\$0.15	\$14.65
Wood, cord (green)	22,000,000	60%	\$193.33	\$14.65
Pellets, ton	16,400,000	80%	\$247.00	\$18.83

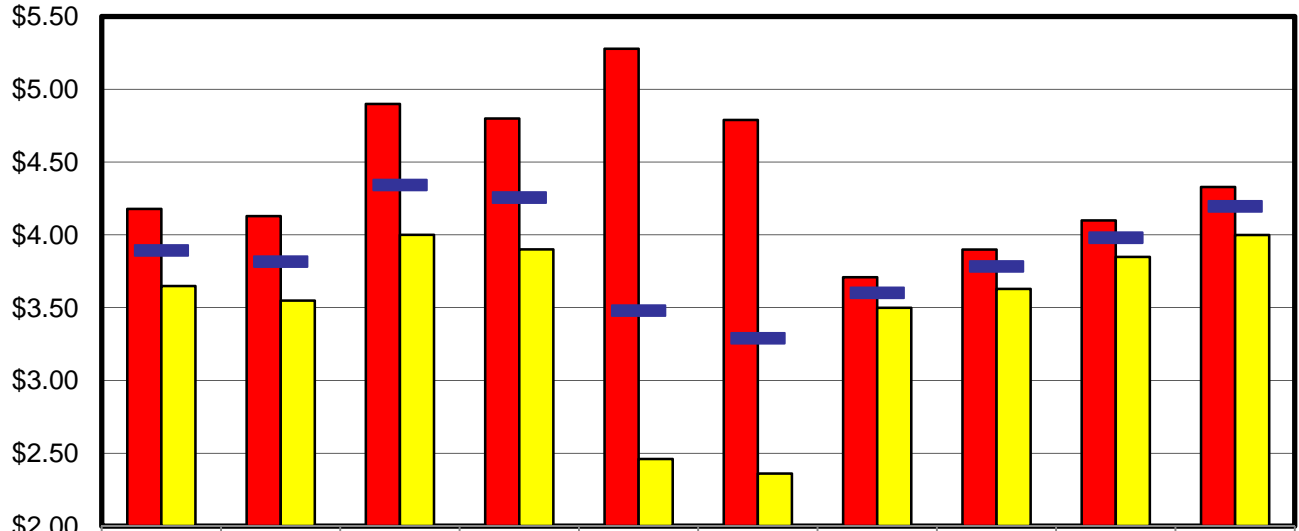
* The natural gas price is based on the rate effective 11/1/13. *Wood green updated 9/25/13.

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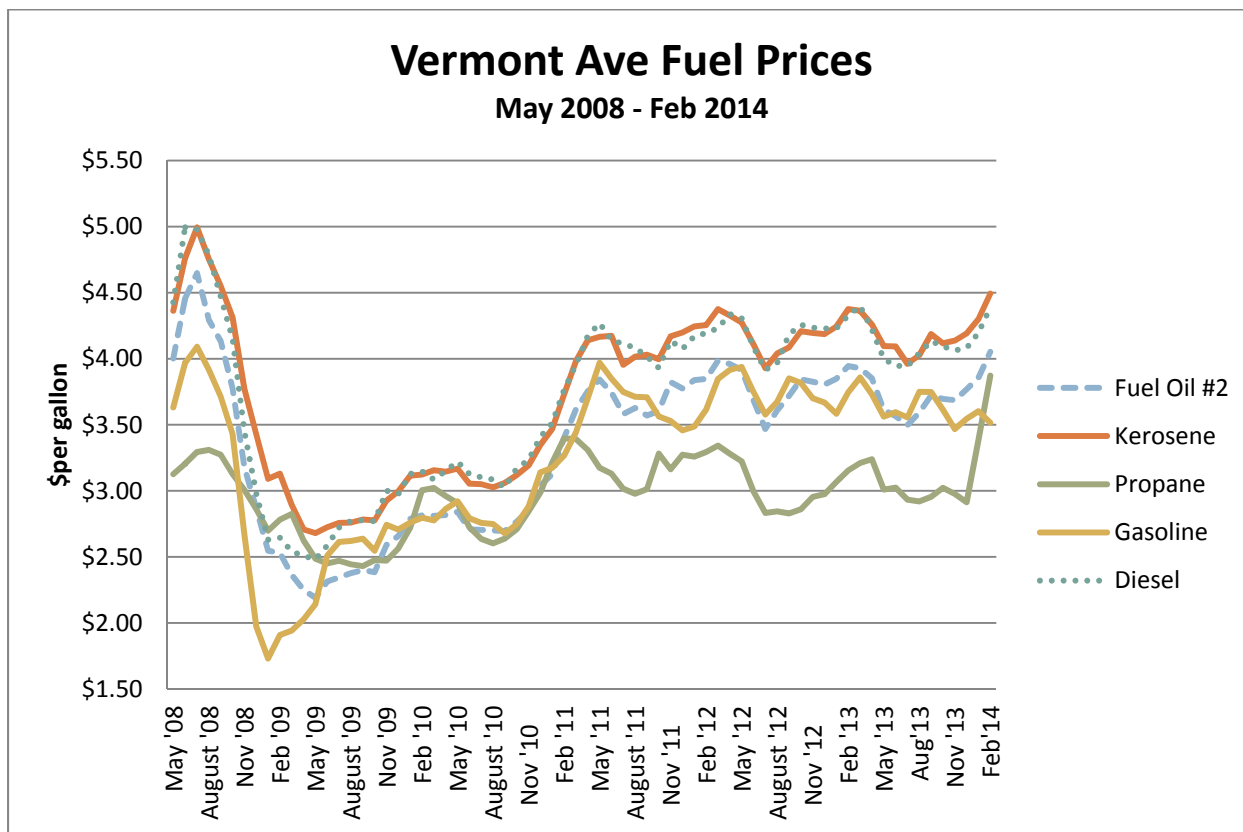
Fuel Price Ranges in Vermont



	Oil-Credit	Oil-Cash	Kero-Credit	Kero-Cash	Pro-Credit	Pro-Cash	Regular Gasoline	Mid Grade Gasoline	Super Gasoline	Diesel
Maximum	\$4.18	\$4.13	\$4.90	\$4.80	\$5.28	\$4.79	\$3.71	\$3.90	\$4.10	\$4.33
Minimum	\$3.65	\$3.55	\$4.00	\$3.90	\$2.46	\$2.36	\$3.50	\$3.63	\$3.85	\$4.00
Average	\$3.89	\$3.82	\$4.34	\$4.26	\$3.48	\$3.29	\$3.60	\$3.78	\$3.98	\$4.20

	<u>Oil-Credit</u>	<u>Oil-Cash</u>	<u>Kero-Credit</u>	<u>Kero-Cash</u>	<u>Pro-Credit</u>	<u>Pro-Cash</u>	<u>Regular Gasoline</u>	<u>Mid Grade Gasoline</u>	<u>Super Gasoline</u>	<u>Diesel</u>
<u>Stan.Dev \$</u>	\$0.16	\$0.15	\$0.22	\$0.21	\$0.72	\$0.70	\$0.26	\$0.94	\$0.24	\$0.42
<u>Stan.Dev %</u>	3.85%	3.78%	4.77%	4.65%	18.17%	18.46%	2.05%	5.88%	1.93%	2.22%

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Vermont Historical Weather and Degree Day Data

CDD's are used during summer months to compare the current day's average temperature against the 65°F standard to determine the energy demands of cooling your home through air conditioning or fans. For example, if the current day's high is 85°F and the low is 65°F, the day's average temperature will be 75°F. Since 75°F-65°F is 10°F, this day would have 10 cooling degree days. Adding the degree days together for the whole month provides a way to compare previous months or years.

HDD's are used the same way during winter months to determine the energy demands of heating your home. The 65°F standard still is used, however, the day's average temperature is subtracted instead of added to the standard. For example, if the current day's high is 30°F and the low is 10°F, the day's average temperature will be 20°F. Since 65°F-20°F is 45°F, this day would have 45 heating degree days.

Just like cooling degree days, heating degree days may be added together for the entire month to compare to previous months or years.¹

¹ <http://www.consumersenergy.com/content.aspx?id=4582>

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The primary online source for historical weather and degree day data is the available from the NOAA - National Climatic Data Center (NCDC) web site at: <http://www7.ncdc.noaa.gov/CDO/CDODivisionalSelect.jsp#>

NCDC maintains the world's largest climate data archive and provides climatological services. Records in the archive range from paleoclimatic data to centuries-old journals to data less than an hour old.

Another source is the Weather Data Depot web site. The data collection is not as extensive as the NOAA collection only covering the years from 1993 forward. But the site is more user friendly. http://www.weatherdatadepot.com/?pi_ad_id=8426228665&gclid=CIaZvMf8krOCFQqk4AodFRYArQ

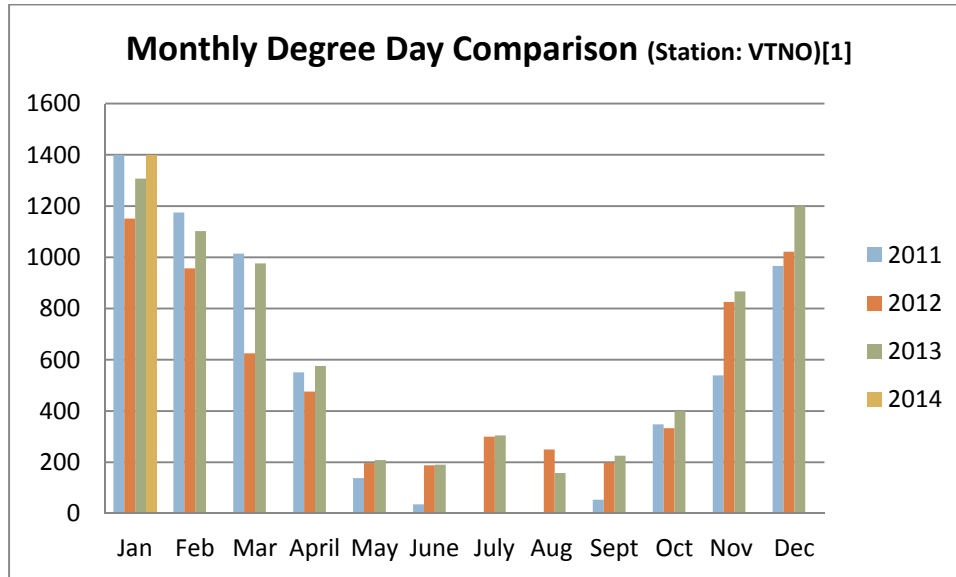
A negative percentage means the Comparison Year was milder than the Base Year. A positive percentage means the Comparison Year was more severe than the Base Year. When the monthly degree days in either the base year or the comparison year are less than 30, a percentage comparison is not calculated. However, the Annual Total comparison percentages include all heating and cooling degree days.

Monthly Degree Day Comparison (Station: VTNO)									
	Base Year (2013)			Comparison Year (2014)			Comparison Percentages		
Month	HDD	CDD	TDD	HDD	CDD	TDD	HDD	CDD	TDD
January	1307	0	1307	1398	0		7%		
February	1102	0	1102						
March	976	0	976						
April	574	2	576						
May	178	31	209						
June	61	130	191						
July	2	303	305						
August	13	145	158						
September	167	59	226						
October	400	0	400						
November	867	0	867						
December	1200	0	1200						
Annual Total	6847	670	7517						

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