

EIA-Short-Term Energy Outlook – Highlights

- Temperatures east of the Rocky Mountains have been significantly colder this winter (October-February) compared with the same period both last winter and the average for the past 10 years, [straining distribution networks and putting upward pressure on consumption and prices of fuels used for space heating](#). U.S. average heating degree days were 13% higher than last winter (indicating colder weather) and 10% above the October through February 10-year average. The Northeast was 13% colder than last winter, the Midwest and South both 19% colder, while the West was 5% warmer.
- The cold weather this winter had the greatest effect on propane prices, particularly for consumers in the Midwest. Cold temperatures have tightened supplies 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 have since fallen back to \$2.78/gal as of March 3. EIA now expects that propane prices in the Midwest will average \$2.62/gal over the winter (51% higher than last winter) while those in the Northeast will average \$3.47/gal (15% higher than last winter).
- Cold temperatures have continued to tighten heating oil supplies and helped drive up retail prices. Since the beginning of the year, distillate inventories in the Northeast (Petroleum Administration for Defense Districts 1A and 1B) have fallen by almost 6.9 million barrels to reach 18.3 million barrels on February 28, 6.4 million barrels below inventory levels for the same week in 2013. Weekly U.S. residential heating oil prices increased by \$0.20/gal during January and have averaged near \$4.24/gal since the beginning of February. Despite the recent increases, EIA expects that U.S. heating oil prices will average \$3.83/gal this winter, \$0.04/gal (1%) lower than during last year's winter heating season, mainly because of lower crude oil prices.
- The North Sea Brent crude oil spot price in February averaged near \$110/barrel (bbl) for the eighth consecutive month, while West Texas Intermediate (WTI) crude oil prices increased by \$6/bbl from the previous month to reach \$101/bbl. Continued high refinery runs helped reduce inventories at the Cushing, Oklahoma, storage hub to 32 million barrels, the lowest level since February 2012, and helped strengthen WTI prices. The discount of WTI crude oil to Brent crude oil, which averaged more than \$13/bbl from November through January, fell to \$8/bbl in February. EIA expects the WTI discount to average \$10/bbl in 2014 and \$11/bbl in 2015.
- Cold weather also contributed to [continuing large withdrawals of natural gas from storage](#) and a surge in natural gas spot prices, [which hit record levels in several markets during periods of extreme cold](#). Natural gas working inventories on February 28 totaled 1.20 trillion cubic feet (Tcf), 0.91 Tcf (43%) below the level at the same time a year ago and 0.76 Tcf (39%) below the five-year average (2009-13). Henry Hub natural gas spot prices were volatile over the past two months, increasing from \$3.95 per million British thermal units (MMBtu) on January 10 to a high of \$8.15/MMBtu on February 10, before falling back to \$4.61/MMBtu on February 27, and then bouncing back up to \$7.98/MMBtu on March 4. EIA expects that the Henry Hub natural gas spot price, which averaged \$3.73/MMBtu in 2013, will average \$4.44/MMBtu in 2014, an increase of \$0.28/MMBtu from the 2014 projection in last month's STEO. Residential natural gas

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prices are expected to average \$10.05 per thousand cubic feet (Mcf) this winter, an increase of \$0.30/Mcf (3%) from last winter.

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

For more information about the EIA - State Heating Oil & Propane Program's Data are published on [EIA.gov](http://www.eia.gov) within: [This Week In Petroleum, Heating Oil & Propane Update](#), and [Weekly Petroleum Status Report](#).

For Residential Propane Information visit: Winter 2013-2014 Propane Updates: <http://www.eia.gov/special/alert/propane/?src=home-b1>

EIA's Alert Page: <http://www.eia.gov/special/alert/propane/>

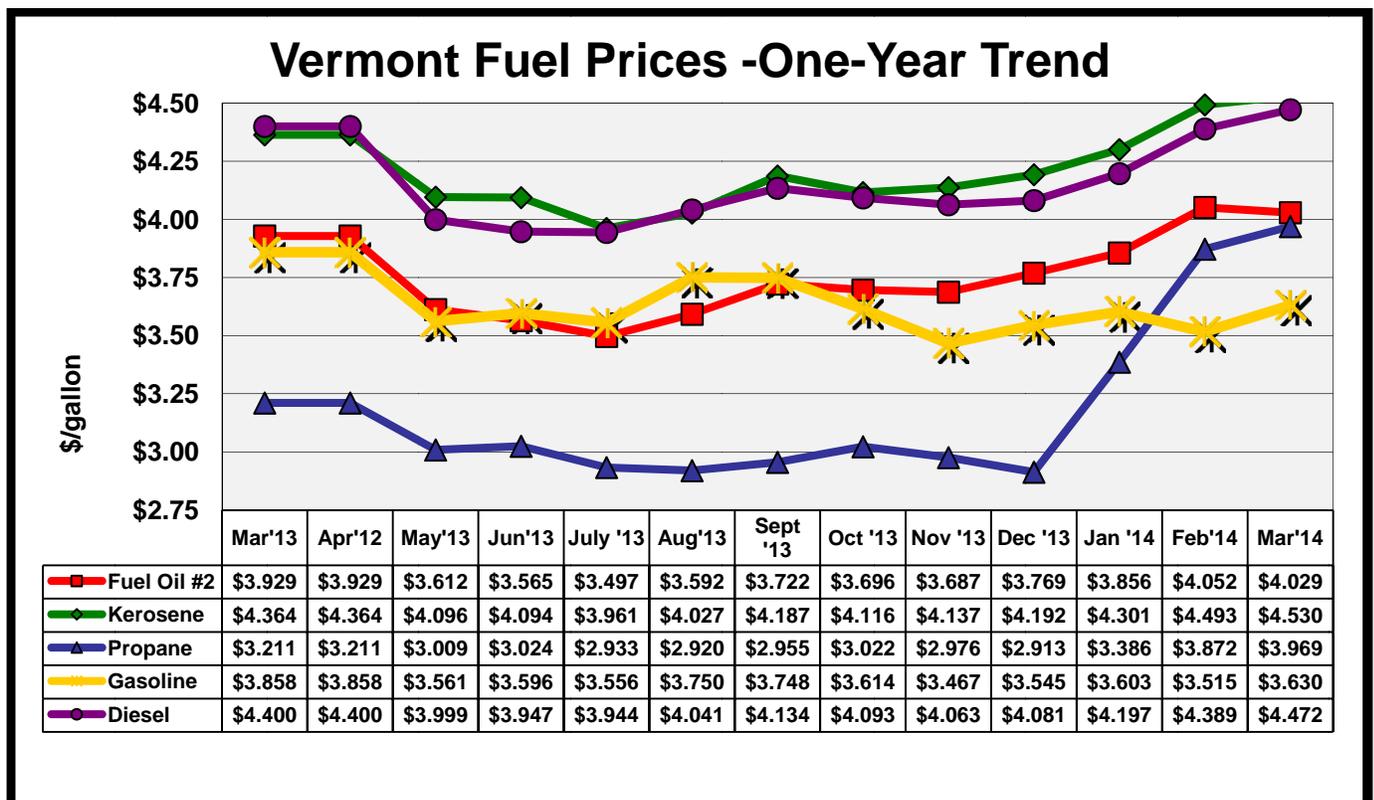
Propane Presentation: <http://www.eia.gov/pressroom/presentations.cfm>

EIA's Today in Energy: <http://www.eia.gov/todayinenergy/detail.cfm?id=14711>

EIA's This Week in Petroleum:

<http://www.eia.gov/oog/info/twip/twiparch/2014/140115/twipprint.html>

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



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.

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Vermont Average Retail Petroleum Prices (per gallon)					
	Mar'14	Feb'14	%change	Mar'13	%change
No. 2 Fuel Oil	\$4.029	\$4.052	-0.56%	\$3.929	2.55%
Kerosene	\$4.530	\$4.493	0.84%	\$4.364	3.82%
Propane	\$3.969	\$3.872	2.50%	\$3.211	23.63%
Reg. Unleaded Gasoline	\$3.630	\$3.515	3.27%	\$3.858	-5.91%
Diesel	\$4.472	\$4.389	1.88%	\$4.400	1.63%

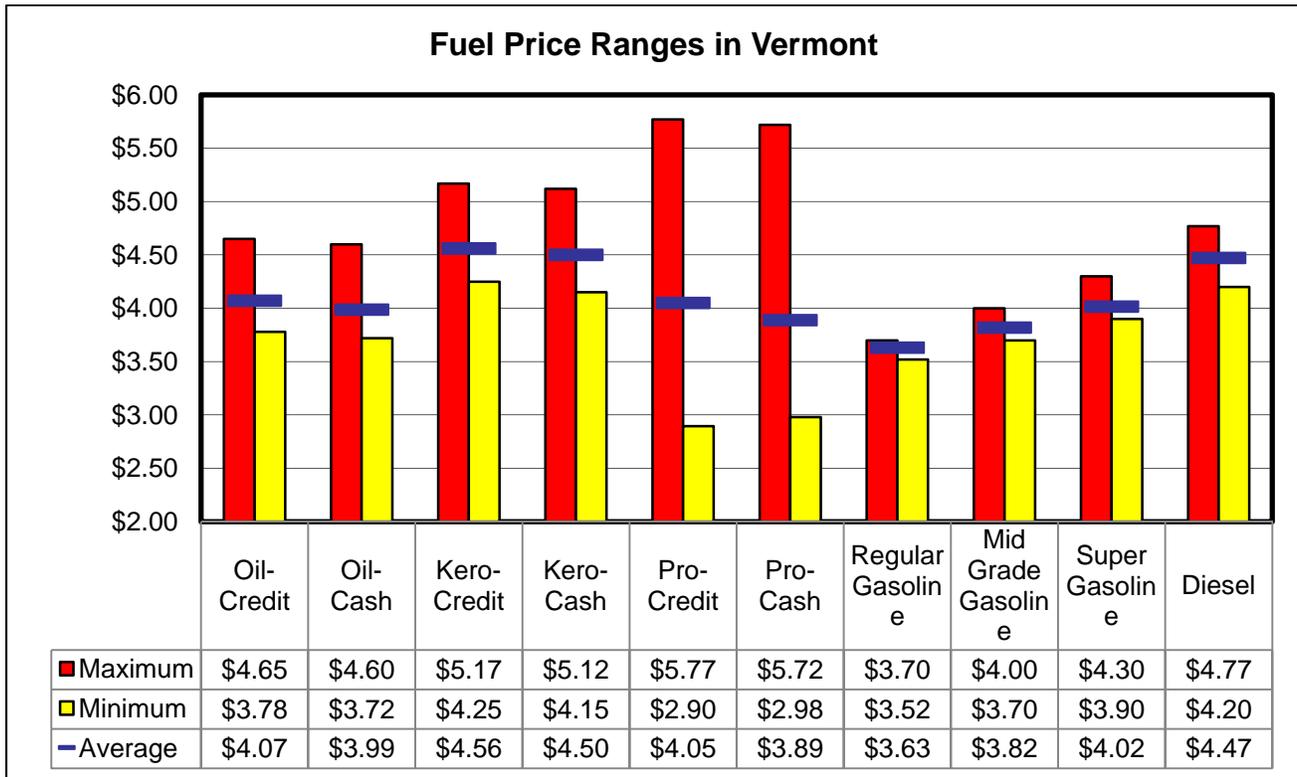
Comparing the Cost of Heating Fuels				
Type of Energy	BTU/unit	Adj Effic	\$/unit	\$/MMBtu
Fuel Oil, gallon	138,200	80%	\$4.03	\$36.44
Kerosene, gallon	136,600	80%	\$4.53	\$41.46
Propane, gallon	91,600	80%	\$3.97	\$54.16
Natural Gas, therm	100,000	80%	\$1.46	\$18.28
Electricity, kWh (resistive heat)	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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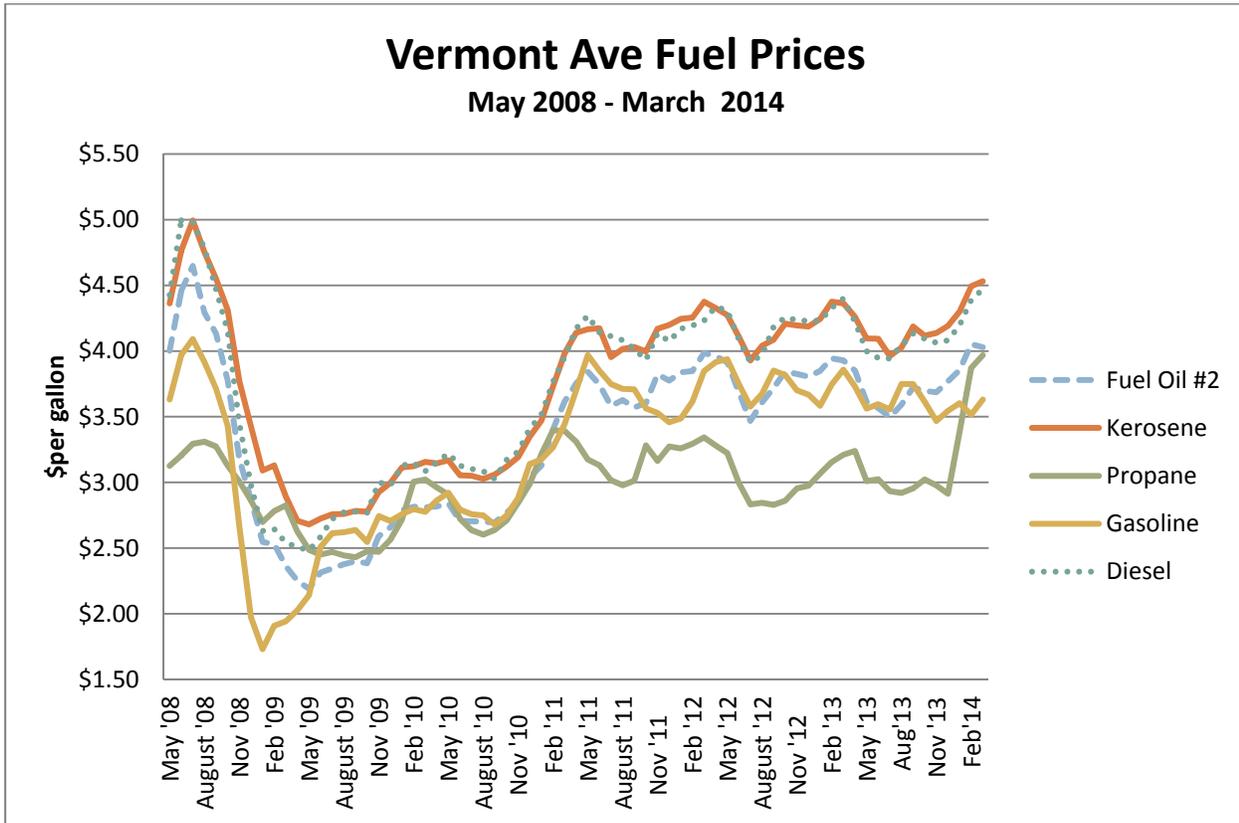
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Fuel Price Ranges in Vermont

	<i>Oil-Credit</i>	<i>Oil-Cash</i>	<i>Kero-Credit</i>	<i>Kero-Cash</i>	<i>Pro-Credit</i>	<i>Pro-Cash</i>	<i>Regular Gasoline</i>	<i>Mid Grade Gasoline</i>	<i>Super Gasoline</i>	<i>Diesel</i>
Stan.Dev \$	\$0.22	\$0.22	\$0.24	\$0.25	\$0.79	\$0.67	\$0.26	\$0.94	\$0.24	\$0.42
Stan.Dev%	5.50%	5.54%	5.34%	5.55%	19.47%	17.24%	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

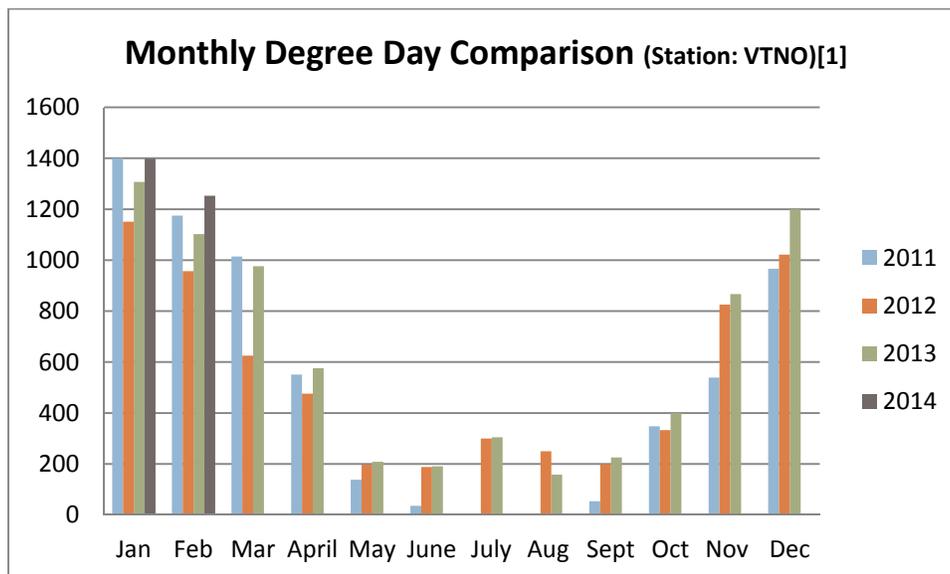
A negative percentage means the Comparison Year was milder than the Base Year. A positive percentage means the Comparison Year was more severe than the Base Year. When the monthly degree days in either the base year or the comparison year are less than 30, a percentage comparison is not calculated. However, 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	1253	0		13%		13%
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	2651	0	2651			

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