NYSERDA Heating Fuels Report

March 9, 2020

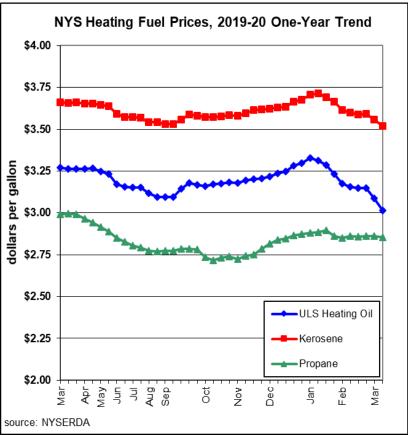
Highlights

- Mid-Atlantic ultra-low sulfur (ULS) distillate inventories decreased 2.0 million barrels (11.4%) since last week to 15.1 million barrels. Current inventories are 20.8% below last year's level and 34.1% below the 5-year average.
- For the week ending March 7th, New York statewide heating degree-days (189) were less than last year (290) by 34.8% and less than the 30-year normal (232) by 18.5%.
- New York Statewide average retail prices of ultra-low sulfur (ULS) heating oil, kerosene, and propane all decreased since the last survey.

Retail Petroleum Prices—On a statewide basis since the last survey on March 2^{nd} , prices decreased 0.071/gallon (2.3%) to 3.016/gallon for ULS heating oil, 0.039/gallon (1.1%) to 3.520/gallon for kerosene, and 0.005/gallon (0.2%) to 2.855/gallon for propane. Compared to a year earlier, prices decreased 0.257/gallon (7.9%) for heating oil, 0.143/gallon(3.9%) for kerosene, and 0.136/gallon (4.5%) for propane.

Crude Oil Prices—For the week ending 3/6/2020, WTI crude oil spot prices a veraged \$45.57/bbl, a decrease of \$2.79/bbl(5.8%) from the week-ago a verage of \$48.36/bbl. WTI prices are now \$10.78/bbl (19.1%) below the year-ago weekly average of \$56.35/bbl. The all-time weekly average high of \$142.52/bbl occurred on 7/04/08.

Spot Natural Gas Prices—For the week ending 3/6/2020, Henry Hub natural gas spot prices a veraged \$1.760 per million Btu (mmBtu), a decrease of \$0.082/mmBtu (4.5%) from the prior week level of \$1.842/mmBtu. Prices are currently \$1.448/mmBtu (45.1%) below the year-earlier weekly average of \$3.208/mmBtu.



 $\label{eq:residentialNaturalGasPrices} \end{tabular} The NYS a verage price in December 2019 was \$1.044/therm, a decrease of \$0.165/therm (13.6\%) from the November 2019 price of \$1.209/therm, and was \$0.083/therm (7.4\%) lower than the year earlier a verage of \$1.127/therm.$

Middle Atlantic Stocks—Current and historic heating fuel inventory data is present	ed in the table below.
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Middle Atlantic Region, Weekly Inventories (million barrels)							
Fuel Type	3/6/2020	2/28/2020	% Change vs. Last Week	Year Ago	% Change vs. Last Year	5-Year Average	% Change vs. 5-Year Avg
ULS Distillate (0-15 ppm)	15.1	17.1	-11.4%	19.1	-20.8%	22.9	-34.1%
Non-road Diesel (15-500 ppm)	1.0	1.0	6.6%	0.8	37.2%	1.2	-9.7%
High Sulfur Distillate (>500 ppm)	1.8	2.5	-29.0%	3.1	-42.5%	3.4	-46.9%
Total Distillate Oil	18.0	20.6	-12.7%	23.0	-21.9%	27.5	-34.7%
Propane	3.223	3.907	-17.5%	2.942	9.6%	1.952	65.1%
#6 Residual Oil	6.4	6.2	3.5%	4.4	47.7%	6.0	8.0%
US Natural Gas	2,043	2,091	-2.3%	1,247	63.8%	1,816	12.5%
US Crude Oil	451.8	444.1	1.7%	449.1	0.6%	462.9	-2.4%

Notes: Natural Gas in billion cubic feet (Bcf); Middle Atlantic is DE, DC, MD, NJ, NY, and PA

ppm = parts per million sulfur content

Source: US DOE/EIA



REGIO N	3/9/2020	3/2/2020	% Change vs. Prior Survey	Year Ago	% Change vs. Last Year
Long Island	3.170	3.259	-2.7%	3.412	-7.1%
New York City	3.002	3.146	-4.6%	3.365	-10.8%
Lower Hudson	2.909	2.982	-2.4%	3.366	-13.6%
Upper Hudson	2.934	3.004	-2.3%	3.165	-7.3%
Capital District	2.800	2.823	-0.8%	2.970	-5.7%
North Country	3.164	3.213	-1.5%	3.273	-3.3%
Central	2.826	2.862	-1.3%	3.094	-8.7%
Western	3.375	3.383	-0.2%	3.417	-1.2%
Statewide	3.016	3.087	-2.3%	3.273	-7.9%
New York S	tate Retail Propane Po	sted Credit Prices -	1,100 gallon usage (category (dollars pe	r gallon)
Long Island	3.201	3.201	0.0%	3.224	-0.7%
Mid-Hudson	2.798	2.804	-0.2%	2.892	-3.3%
Capital District	2.704	2.714	-0.4%	2.932	-7.8%
North Country	3.618	3.619	0.0%	3.812	-5.1%
Central	2.603	2.608	-0.2%	2.750	-5.3%
Western	2.573	2.579	-0.2%	2.686	-4.2%
Statewide	2.855	2.860	-0.2%	2.991	-4.5%
	New York State Ret	ail Kerosene Posted	Credit Prices (dolla	rs per gallon)	
Mid-Hudson	3.635	3.664	-0.8%	3.768	-3.5%
Capital District	3.226	3.276	-1.5%	3.414	-5.5%
North Country	3.619	3.676	-1.6%	3.763	-3.8%
Central	3.353	3.364	-0.3%	3.546	-5.4%
Western	3.738	3.805	-1.8%	3.777	-1.0%
Statewide	3.520	3.559	-1.1%	3.663	-3.9%
	New York State	Average Residential	Natural Gas Prices	(\$/therm)	
REGIO N	December 2019	November 2019	% Change vs. Prior Month	December 2018	% Change vs. Last Year
Statewide	1.044	1.209	-13.7%	1.127	-7.4%

* Revision

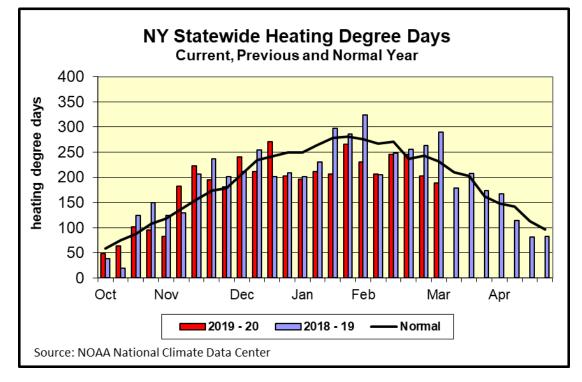
Historic Retail Prices—Statewide average high and low prices since Sept. 1997 for heating oil & propane & Sept. 2000 for kerosene.

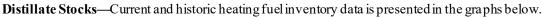
- Heating oil—highest price \$4.778/gallon on 7/14/08, lowest price \$0.876/gallon on 9/08/98.
- Propane—highest price \$3.811/gallon on 2/17/14, lowest price \$1.072/gallon on 9/20/99.
- Kerosene—highest price \$5.068/gallon on 7/14/08, lowest price \$1.309/gallon on 9/09/02.

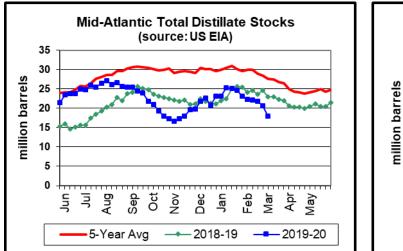
Residential Natural Gas Prices: Statewide average prices are derived from US EIA most currently a vailable data. NYS gas utility specific prices can be found on the NYS DPS website at http://www.dps.ny.gov/TypicalBills.htm#GasRes.

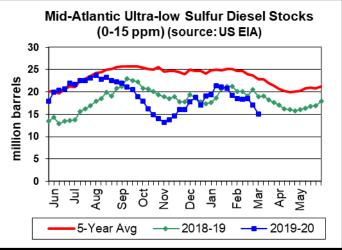
New York State Regions: Long Island: Na ssau and Suffolk New York City: Bronx, Kings, New York, Queens, and Richmond Lower Hudson: Dutchess, Putnam, Rockland, and Westchester Upper Hudson: Columbia, Greene, Orange, Sullivan, and Ulster Capital District: Albany, Fulton, Montgomery, Rensselaer, Sa atoga, Schenectady, Schoharie, and Washington North Country: Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis, St. La wrence, and Warren Central: Broome, Cayuga, Chenango, Cortland, Dela ware, Herkimer, Madison, Oneida, Onondaga, Oswego, Otsego, Tioga, and Tompkins Western: Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Nia gara, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, Wyoming, and Yates counties. Propane & Kerosene: Mid-Hudson: Columbia, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester counties. B5 heating oil is required for Downstate New York including Nassau, Suffolk, NYC, and Westchester counties. **Heating Degree Days**— On a statewide basis during the past week, the number of heating degree-days (189) was 34.8% below the year-ago level (290) and 18.5% below the normal trend (232). On a cumulative basis since October 1st, current year heating degree-days (4,298) are behind the year-ago level (4,704) by 8.6% and behind the normal trend (4,624) by 7.1%.

New York State Heating Degree Day Information, Weekly & Cumulative						
Week Ending March 07				Cumulative From October 1		
Region	2020	2019	Normal	2019-20	2018-19	Normal
Albany	181	289	231	4,478	4,983	4,899
Binghamton	207	321	256	4,983	5,447	5,290
Buffalo	200	327	247	4,473	5,077	4,928
Glens Falls	218	324	263	5,284	5,584	5,616
Massena	248	351	291	5,697	6,252	6,040
NYC	138	242	187	3,236	3,635	3,701
Rochester	191	309	247	4,598	4,927	4,959
Syracuse	195	312	248	4,610	5,243	5,051
Watertown	232	369	274	5,212	5,794	5,617
Statewide	189	290	232	4,298	4,704	4,624

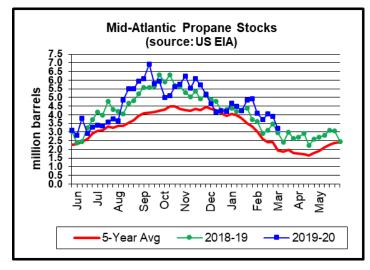




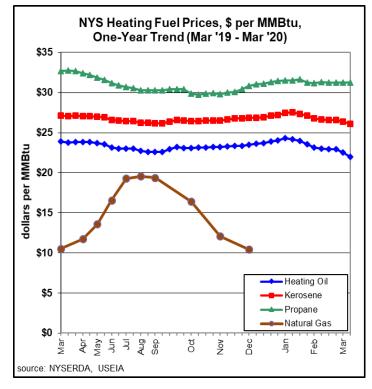




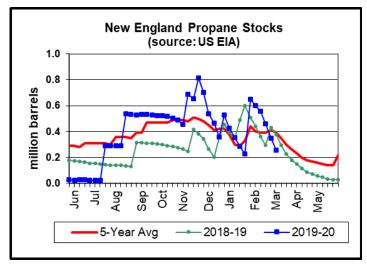
Propane Stocks—Current and historic heating fuel inventory data is presented in the graphs below.



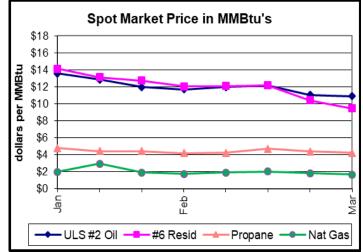
Retail Btu Price Equivalents—The New York State heating fuel prices Btu graph equates the retail price for New York Statewide a verage residential ultra-low sulfur heating oil, kerosene, propane, and natural gas on a dollar per million Btu (MMBtu) basis.



Note: Natural gas prices are from the U.S. EIA and provided on a monthly basis and delayed by 3 months. The monthly average price of natural gas is higher during the summer months due to low delivery volumes and fixed delivery charges and does not necessarily indicate a higher underlying supply price. Higher a verage natural gas prices in the summer months are not indicative of higher future prices during the winter months.



Spot Btu Price Equivalents—The Btu spot market graph equates the spot market price, in table below, for NY Harbor ultra-low sulfur diesel fuel and 0.3% sulfur high pour #6 residual fuel, Mont Belvieu propane, and the New York Citygate natural gas price on a dollar per million Btu (MMBtu) basis.



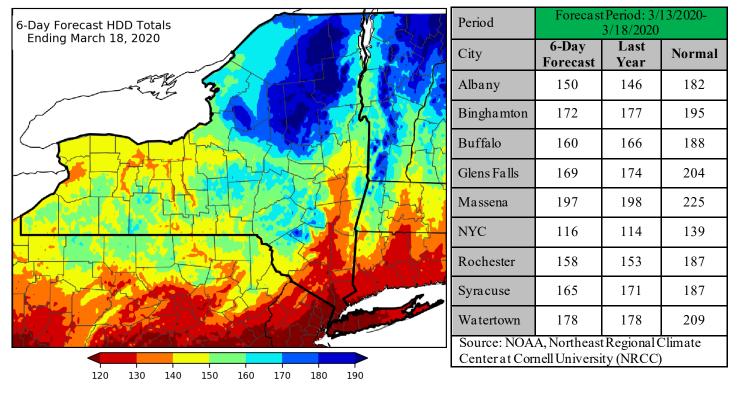
New York Spot Prices, Weekly Average					
Fuel	3/6/2020	Year Ago	% Change		
Ultra LS Diesel	1.512	2.011	-24.8%		
#2 Fuel Oil	1.481	1.980	-25.2%		
#6 Residual 0.3%	1.413	1.834	-22.9%		
Propane	0.387	0.687	-43.7%		
Natural Gas	1.661	3.671	-54.8%		

Note: Fuel in \$/gallon, natural gas (\$/MMBtu)=NYCitygate

Weather Outlooks – Based on data and maps provided by the National Oceanic and Atmospheric Administration (NOAA) and the Northeast Regional Climate Center at Cornell University (NRCC).

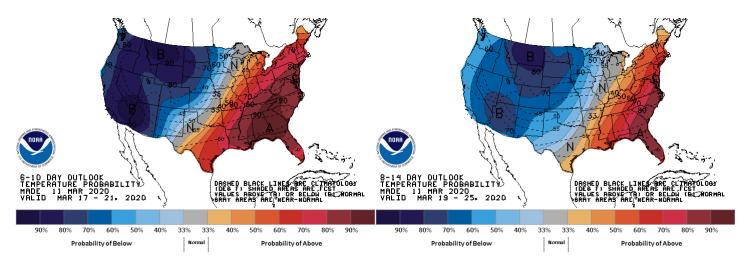
Statewide Forecast HDD: On a statewide basis for the week ending March 14th, the number of forecasted heating degree-days (139) is 33.8% below last year (210) and 33.2% below the normal trend (208). Regional HDD forecasts are provided in the map and table below.

Regional Heating Degree-Day Forecast



6-10 Day Outlook Temperature Probability from the Climate Prediction Center (NOAA). The forecasted map presents the 6-10 day temperature probability outlook for the United States for March 17, 2020 - March 21, 2020. This is in comparison to the 30-year normal (1981-2010).

8-14 Day Outlook Temperature Probability from the Climate Prediction Center (NOAA). The forecasted map presents the 8-14 day temperature probability outlook for the United States for March 19, 2020 - March 25, 2020. This is in comparison to the 30-year normal (1981-2010).



Additional historic <u>regional specific prices and supply information</u> is a vailable at NYSERDA's website. For more information please contact Matthew Milford at (518) 862-1090 ext. 3416, e-mail <u>matthew.milford@nyserda.ny.gov.</u>