NYSERDA Heating Fuels Report

October 28, 2019

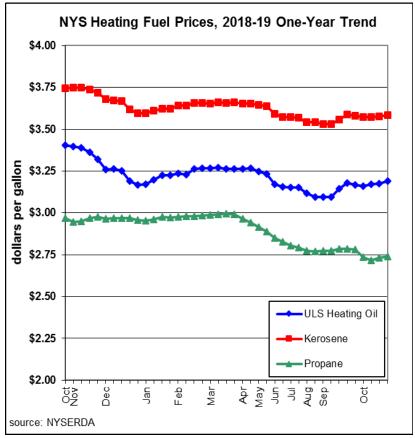
Highlights

- Mid-Atlantic ultra-low sulfur (ULS) distillate inventories decreased 1.0 million barrels (6.4%) since last week to 14.0 million barrels. Current inventories are 26.2% below last year's level and 42.8% below the 5-year average.
- U.S. natural gas inventories increased by 89 billion cubic feet since last week to 3,695 billion cubic feet. Inventories are 17.8% above last year's level and 1.4% above the 5-year average.
- New York Statewide average retail prices of ultra-low sulfur (ULS) heating oil, kerosene, and propane all increased since the last survey.

Retail Petroleum Prices—On a statewide basis since the last survey on October 21^{st} , prices increased 0.014/gallon (0.4%) to 3.189/gallon for ULS heating oil, 0.006/gallon (0.2%) to 3.583/gallon for kerosene, and 0.009/gallon (0.3%) to 2.740/gallon for propane. Compared to a year earlier, prices decreased 0.215/gallon (6.3%) for heating oil, 0.164/gallon(4.4%) for kerosene, and 0.229/gallon (7.7%) for propane.

Crude Oil Prices—For the week ending 10/25/19, WTI crude oil spot prices a veraged \$55.20/bbl, an increase of \$1.71/bbl(3.2%) from the week-ago a verage of \$53.49/bbl. WTI prices are now \$12.23/bbl (18.1%) below the year-ago weekly average of \$67.43/bbl. The all-time weekly average high of \$142.52/bbl occurred on 7/04/08.

Spot Natural Gas Prices—For the week ending 10/25/19, Henry Hub natural gas spot prices a veraged \$2.182 per million Btu (mmBtu), a decrease of \$0.026/mmBtu (1.2%) from the prior week level of \$2.208/mmBtu. Prices are currently \$1.074/mmBtu (33.0%) below the year-earlier weekly average of \$3.256/mmBtu.



Residential Natural Gas Prices—The NYS a verage price in August 2019 was 1.957/therm, an increase of 0.027/therm (1.4%) from the July 2019 price of 1.930/therm, and was 0.061/therm (3.0%) lower than the year earlier a verage of 2.018/therm.

Middle Atlantic Stocks—Current and historic heating fuel inventory data is preser	ted in the table below.
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Middle Atlantic Region, Weekly Inventories (million barrels)							
Fuel Type	10/25/2019	10/18/2019	% Change vs. Last Week	Year Ago	% Change vs. Last Year	5-Year Average	% Change vs. 5-Year Avg
ULS Distillate (0-15 ppm)	14.0	15.0	-6.4%	19.0	-26.2%	24.5	-42.8%
Non-road Diesel (15-500 ppm)	0.9	0.5	68.8%	0.6	41.6%	1.2	-28.1%
High Sulfur Distillate (>500 ppm)	2.5	2.5	-1.3%	2.5	-1.7%	3.5	-30.0%
Total Distillate Oil	17.3	18.0	-3.5%	22.1	-21.6%	29.2	-40.7%
Propane	5.763	5.626	2.4%	5.597	3.0%	3.843	49.9%
#6 Residual Oil	6.5	6.0	7.9%	4.6	41.3%	6.0	7.6%
US Natural Gas	3,695	3,606	2.5%	3,136	17.8%	3,643	1.4%
US Crude Oil	438.9	433.2	1.3%	426.0	3.0%	429.1	2.3%

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	10/28/2019	10/21/2019	% Change vs. Prior Survey	Year Ago	% Change vs. Last Year
Long Island	3.393	3.363	0.9%	3.587	-5.4%
New York City	3.332	3.327	0.2%	3.507	-5.0%
Lower Hudson	3.217	3.201	0.5%	3.553	-9.5%
Upper Hudson	3.022	3.018	0.1%	3.278	-7.8%
Capital District	2.896	2.896	0.0%	3.142	-7.8%
North Country	3.203	3.203	0.0%	3.291	-2.7%
Central	2.940	2.914	0.9%	3.233	-9.1%
Western	3.365	3.345	0.6%	3.455	-2.6%
Statewide	3.189	3.175	0.4%	3.404	-6.3%
New York S	tate Retail Propane Po	sted Credit Prices ·	1,100 gallon usage c	ategory (dollars p	er gallon)
Long Island	3.075	3.075	0.0%	3.270	-6.0%
Mid-Hudson	2.752	2.734	0.7%	2.948	-6.6%
Capital District	2.534	2.522	0.5%	2.854	-11.2%
North Country	3.491	3.490	0.0%	3.701	-5.7%
Central	2.456	2.455	0.0%	2.737	-10.3%
Western	2.471	2.453	0.7%	2.647	-6.6%
Statewide	2.740	2.731	0.3%	2.969	-7.7%
	New York State Reta	ail Kerosene Posteo	l Credit Prices (dollar	s per gallon)	
Mid-Hudson	3.671	3.666	0.1%	3.822	-4.0%
Capital District	3.329	3.329	0.0%	3.580	-7.0%
North Country	3.688	3.688	0.0%	3.796	-2.8%
Central	3.409	3.396	0.4%	3.677	-7.3%
Western	3.819	3.801	0.5%	3.821	-0.1%
Statewide	3.583	3.577	0.2%	3.747	-4.4%
	New York State	Average Residentia	l Natural Gas Prices	(\$/therm)	3
REGIO N	August 2019	July 2019	% Change vs. Prior Month	August 2018	% Change vs. Last Year
Statewide	1.957	1.930	1.4%	2.018	-3.0%

* Revision

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

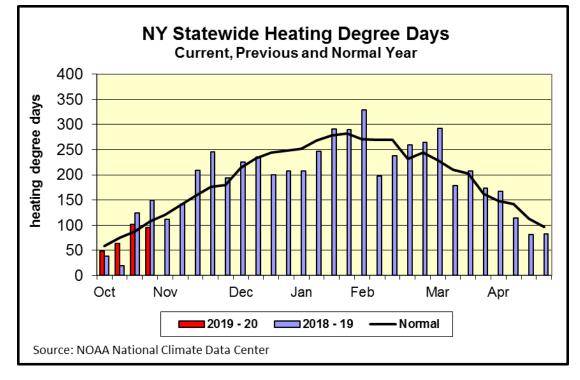
- Heating oil—highest price \$4.778/gallon on 7/14/08, lowest price \$0.876/gallon on 9/08/98.
- Propane—highest price \$3.811/gallon on 2/17/14, lowest price \$1.072/gallon on 9/20/99.
- Kerosene—highest price \$5.068/gallon on 7/14/08, lowest price \$1.309/gallon on 9/09/02.

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.

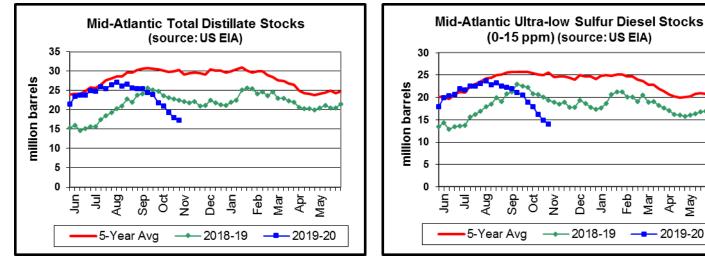
New York State Regions: Long Island: Nassau and Suffolk New York City: Bronx, Kings, New York, Queens, and Richmond Lower Hudson: Dutchess, Putnam, Rockland, and Westchester Upper Hudson: Columbia, Greene, Orange, Sullivan, and Ulster Capital District: Albany, Fulton, Montgomery, Rensselaer, Saratoga, 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 (95) was 36.2% below the year-ago level (149) and 12.0% below the normal trend (108). On a cumulative basis since October 1st, current year heating degreedays (310) are behind the year-ago level (330) by 6.1% and behind the normal trend (328) by 5.5%.

New York State Heating Degree Day Information, Weekly & Cumulative						
Week Ending October 26				Cumulative From October 1		
Region	2019	2018	Normal	2019-20	2018-19	Normal
Albany	101	150	123	332	366	383
Binghamton	105	181	133	405	430	431
Buffalo	96	160	117	350	380	367
Glens Falls	116	180	142	438	459	462
Massena	121	183	146	464	496	472
NYC	40	99	70	125	168	198
Rochester	89	157	117	329	369	372
Syracuse	92	170	120	342	390	383
Watertown	110	181	138	425	456	451
Statewide	95	149	108	310	330	328



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

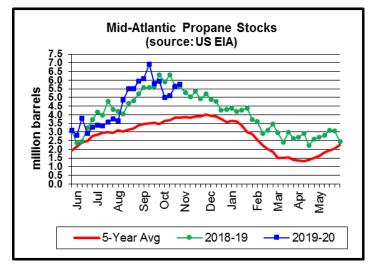


May

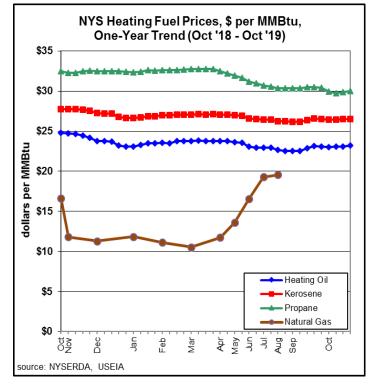
2019-20

Apr

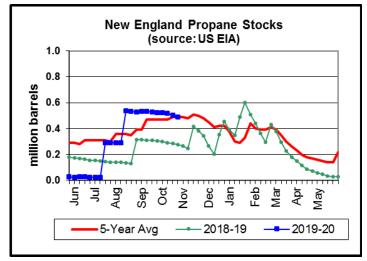
Feb Mar Propane Stocks—Current and historic heating fuel inventory data is presented in the graphs below.



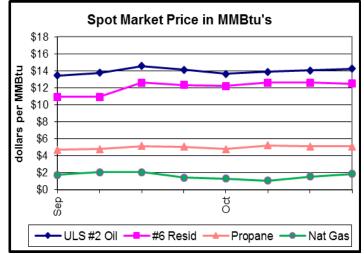
Retail Btu Price Equivalents—The New York State heating fuel prices Btu graph equates the retail price for New York Statewide a verage residential ultra-low sulfur heating oil, kerosene, propane, and natural gas on a dollar per million Btu (MMBtu) basis.



Note: Natural gas prices are from the U.S. EIA and provided on a monthly basis and delayed by 3 months.



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.



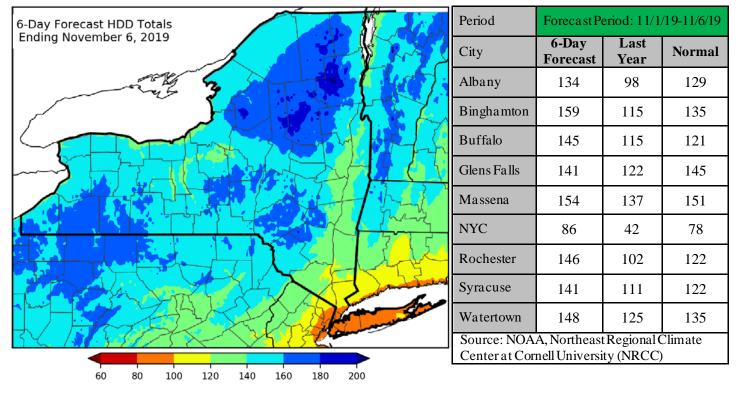
New York Spot Prices, Weekly Average					
Fuel	10/25/2019	Year Ago	% Change		
Ultra LS Diesel	1.976	2.277	-13.2%		
#2 Fuel Oil	1.965	2.261	-13.1%		
#6 Residual 0.3%	1.870	2.018	-7.3%		
Propane	0.465	0.861	-45.9%		
Natural Gas	1.850	3.244	-43.0%		

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).

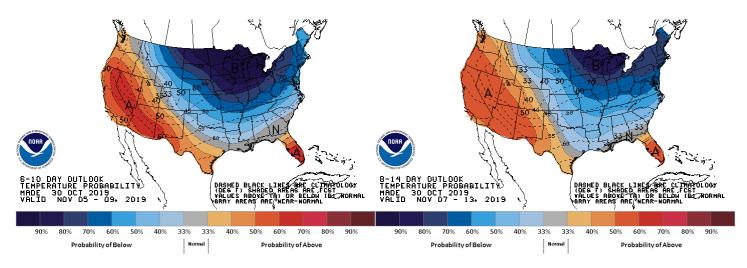
Statewide Forecast HDD: On a statewide basis for the week ending November 2^{nd} , the number of forecasted heating degree-days (73) is 35.4% less than last year (113) and 40.2% less than the normal trend (122). Regional HDD forecasts are provided in the map and table below.

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 November 5, 2019 - November 9, 2019. 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 November 7, 2019 - November 13, 2019. This is in comparison to the 30-year normal (1981-2010).



Additional historic **regional specific** prices and supply information 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>