NYSERDA Heating Fuels Report

November 4, 2019

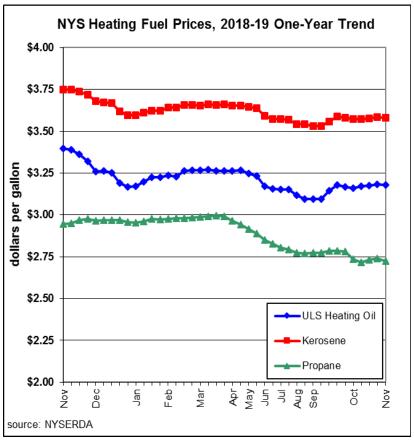
Highlights

- Mid-Atlantic ultra-low sulfur (ULS) distillate inventories decreased 0.8 million barrels (6.0%) since last week to 13.2 million barrels. Current inventories are 28.7% below last year's level and 46.6% below the 5-year average.
- U.S. natural gas inventories increased by 34 billion cubic feet since last week to 3,729 billion cubic feet. Inventories are 16.6% above last year's level and 0.8% above the 5-year average.
- 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 October 28^{th} , prices decreased 0.004/gallon (0.1%) to 3.181/gallon for ULS heating oil, 0.003/gallon (0.1%) to 3.580/gallon for kerosene, and 0.016/gallon (0.6%) to 2.724/gallon for propane. Compared to a year earlier, prices decreased 0.215/gallon (6.3%) for heating oil, 0.170/gallon(4.5%) for kerosene, and 0.223/gallon (7.6%) for propane.

Crude Oil Prices—For the week ending 11/1/19, WTI crude oil spot prices a veraged \$55.17/bbl, a decrease of \$0.03/bbl (0.1%) from the week-ago average of \$55.20/bbl. WTI prices are now \$9.89/bbl (15.2%) below the year-ago weekly a verage of \$65.06/bbl. The all-time weekly a verage high of \$142.52/bbl occurred on 7/04/08.

Spot Natural Gas Prices—For the week ending 11/1/19, Henry Hub natural gas spot prices a veraged \$2.560 per million Btu (mmBtu), an increase of \$0.378/mmBtu (17.3%) from the prior week level of \$2.182/mmBtu. Prices are currently \$0.684/mmBtu (21.1%) below the year-earlier week ly average of \$3.244/mmBtu.



Residential Natural Gas Prices—The NYS average 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 average of \$2.018/therm.

Middle Atlantic Stocks—Curre	ent and historic heating fuel inventor	ry data is presented in the table below.
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Middle Atlantic Region, Weekly Inventories (million barrels)							
Fuel Type	11/1/2019	10/25/2019	% Change vs. Last Week	Year Ago	% Change vs. Last Year	5-Year Average	% Change vs. 5-Year Avg
ULS Distillate (0-15 ppm)	13.2	14.0	-6.0%	18.5	-28.7%	24.6	-46.6%
Non-road Diesel (15-500 ppm)	0.7	0.9	-15.0%	0.7	1.6%	1.3	-40.7%
High Sulfur Distillate (>500 ppm)	2.7	2.5	11.1%	2.6	4.8%	3.7	-26.4%
Total Distillate Oil	16.6	17.3	-4.1%	21.8	-23.7%	29.6	-43.8%
Propane	6.239	5.763	8.3%	5.282	18.1%	3.866	61.4%
#6 Residual Oil	6.4	6.5	-1.1%	4.6	40.2%	6.2	3.0%
US Natural Gas	3,729	3,695	0.9%	3,199	16.6%	3,700	0.8%
US Crude Oil	446.8	438.9	1.8%	431.8	3.5%	434.3	2.9%

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	11/4/2019	10/28/2019	% Change vs. Prior Survey	Year Ago	% Change vs. Last Year
Long Island*	3.366	3.373	-0.2%	3.575	-5.8%
New York City	3.324	3.332	-0.2%	3.478	-4.4%
Lower Hudson	3.211	3.217	-0.2%	3.536	-9.2%
Upper Hudson	3.034	3.022	0.4%	3.288	-7.7%
Capital District	2.896	2.896	0.0%	3.126	-7.4%
North Country	3.206	3.203	0.1%	3.312	-3.2%
Central	2.940	2.940	0.0%	3.226	-8.9%
Western	3.326	3.365	-1.2%	3.450	-3.6%
State wide *	3.181	3.185	-0.1%	3.396	-6.3%
New York St	ate Retail Propane Po	sted Credit Prices -	1,100 gallon usage c	ategory (dollars p	er gallon)
Long Island	2.978	3.075	-3.2%	3.207	-7.1%
Mid-Hudson	2.702	2.752	-1.8%	2.907	-7.1%
Capital District	2.548	2.534	0.6%	2.854	-10.7%
North Country	3.520	3.491	0.8%	3.668	-4.0%
Central	2.450	2.456	-0.2%	2.721	-10.0%
Western	2.456	2.471	-0.6%	2.650	-7.3%
Statewide	2.724	2.740	-0.6%	2.947	-7.6%
	New York State Reta	ail Kerosene Postec	l Credit Prices (dollar	rs per gallon)	
Mid-Hudson	3.676	3.671	0.1%	3.842	-4.3%
Capital District	3.329	3.329	0.0%	3.563	-6.6%
North Country	3.688	3.688	0.0%	3.796	-2.8%
Central	3.409	3.409	0.0%	3.674	-7.2%
Western	3.779	3.819	-1.0%	3.821	-1.1%
Statewide	3.580	3.583	-0.1%	3.750	-4.5%
	New York State	Average Residentia	l Natural Gas Prices	(\$/therm)	*
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.

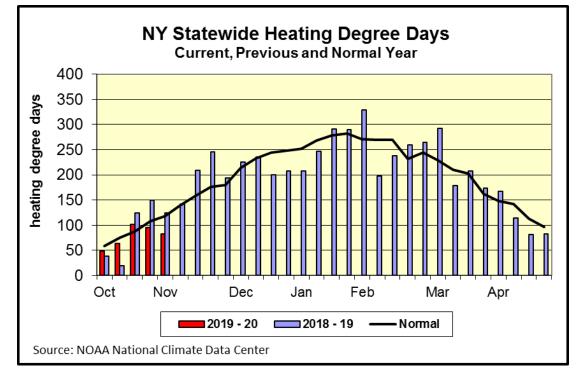
- Heating oil—highest price \$4.778/gallon on 7/14/08, lowest price \$0.876/gallon on 9/08/98.
- Propane—highest price \$3.811/gallon on 2/17/14, lowest price \$1.072/gallon on 9/20/99.
- Kerosene—highest price \$5.068/gallon on 7/14/08, lowest price \$1.309/gallon on 9/09/02.

Residential Natural Gas Prices: Statewide average prices are derived from US EIA most currently available 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 (82) was 33.9% below the year-ago level (124) and 30.5% below the normal trend (118). On a cumulative basis since October 1st, current year heating degreedays (392) are behind the year-ago level (454) by 13.7% and behind the normal trend (446) by 12.1%.

New York State Heating Degree Day Information, Weekly & Cumulative						
Week Ending November 02			Cumulative From October 1			
Region	2019	2018	Normal	2019-20	2018-19	Normal
Albany	69	127	137	401	493	520
Binghamton	103	149	149	508	579	580
Buffalo	109	156	133	459	536	500
Glens Falls	93	151	157	531	610	619
Massena	118	185	162	582	681	634
NYC	57	66	85	182	234	283
Rochester	91	145	133	420	514	505
Syracuse	73	150	135	415	540	518
Watertown	86	175	154	511	631	605
Statewide	82	124	118	392	454	446



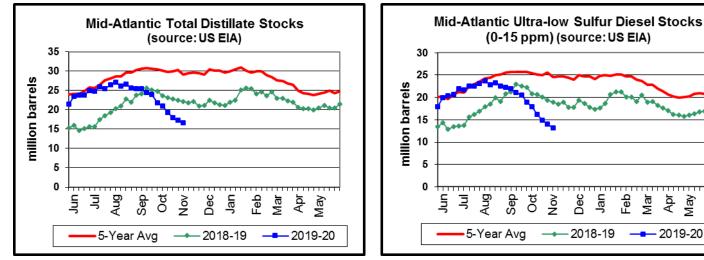
May

- 2019-20

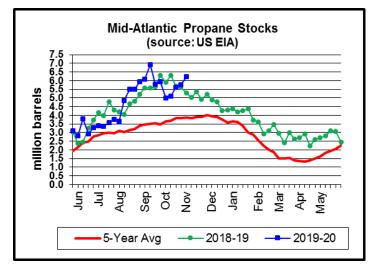
Feb Mar Apr

Jar

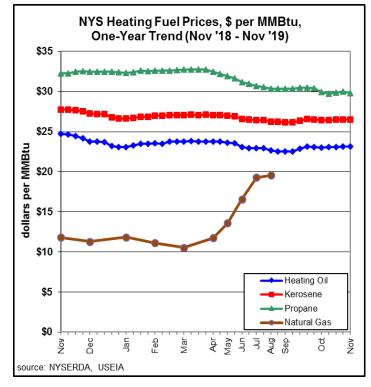
Distillate Stocks—Current and historic heating fuel inventory data is presented in the graphs below.



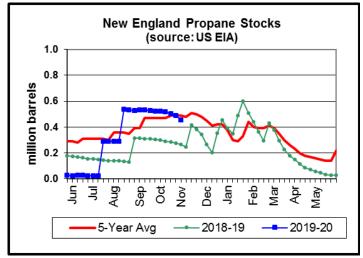
Propane Stocks—Current and historic heating fuel inventory data is presented in the graphs below.



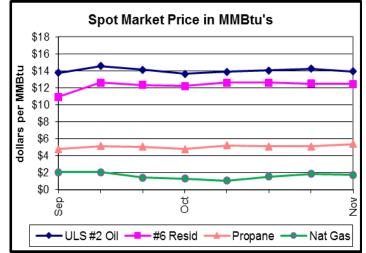
Retail Btu Price Equivalents—The New York State heating fuel prices Btu graph equates the retail price for New York Statewide a verage residential ultra-low sulfur heating oil, kerosene, propane, and natural gas on a dollar per million Btu (MMBtu) basis.



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.



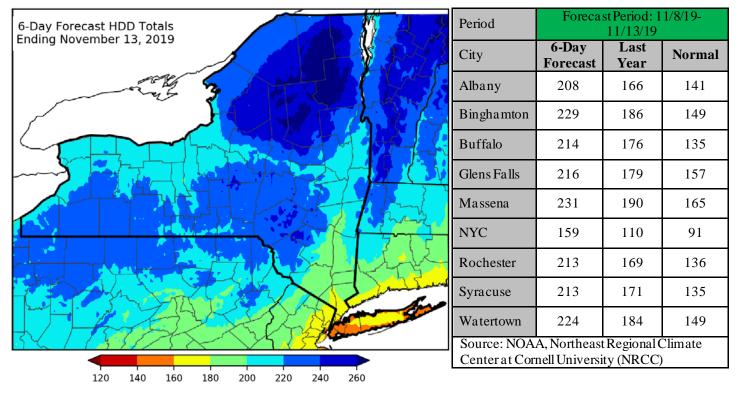
New York Spot Prices, Weekly Average						
Fuel	11/1/2019	Year Ago	% Change			
Ultra LS Diesel	1.932	2.231	-13.4%			
#2 Fuel Oil	1.925	2.215	-13.1%			
#6 Residual 0.3%	1.863	2.015	-7.6%			
Propane	0.493	0.842	-41.5%			
Natural Gas	1.753	3.015	-41.9%			

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).

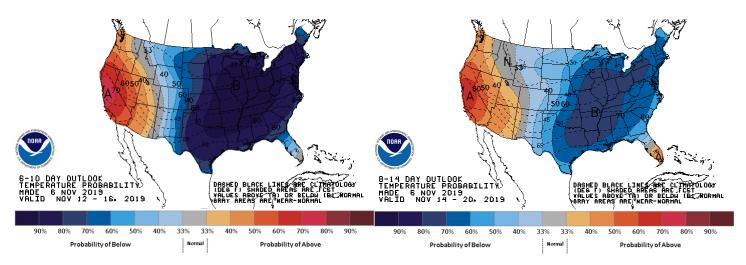
Statewide Forecast HDD: On a statewide basis for the week ending November 9th, the number of forecasted heating degree-days (165) is 37.5% above last year (120) and 20.4% above the normal trend (137). Regional HDD forecasts are provided in the map and table below.

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 12, 2019 - November 16, 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 14, 2019 - November 20, 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>