December 1, 2023



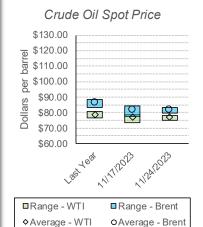
Overall Energy & Fuels Markets Summary

- Summary of average spot prices for the following fuels (see page 1).
 - Natural gas (Henry Hub) average prices slightly decreased compared to the prior week.
 - Propane (Mt. Belvieu) average prices slightly increased.
 - Crude oil (WTI and Brent) average prices remained similar to the prior week.
- Regional fuels inventories (see pages 2 and 3) compared to the previous week:
 - Total gasoline, propane and ultra-low sulfur diesel (ULSD) inventories slightly increased compared to the prior week.
 - Natural gas inventories remained similar compared to the prior week.
- Market influencers include:
 - Global factors include the Russian invasion of Ukraine and the war in Israel, including the associated geopolitical uncertainties.
 - Economic concerns related to higher interest rates, Organization of the Petroleum Exporting Countries (OPEC) crude oil production planning and outlook, and global petroleum products demand dynamics as winter heating demand increases.
- In New York/Northeast, National Oceanic and Atmospheric Administration (NOAA) forecasts near normal temperatures over the next 6-10 days, then leaning above average temperatures over the next 8-14 days. The forecast for precipitation is near normal over the next 6-10 days, with a change to leaning above for the 8-14 day outlook. (Page 6)
- NY retail prices (see pages 4 and 5) for heating and transportation fuels:
 - NY transportation regular gasoline and diesel both slightly decreased compared to the prior week.
 - Heating oil and propane slightly increased while kerosene remained similar compared to the prior week.

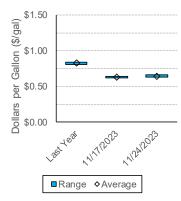
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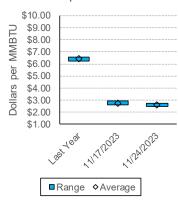
Fundamental Fuels Market Weekly Price Summaries



Propane Mt. Belvieu Spot Price



Natural Gas Henry Hub Spot Price



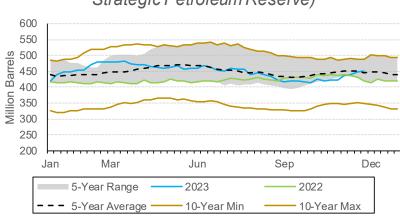
Note

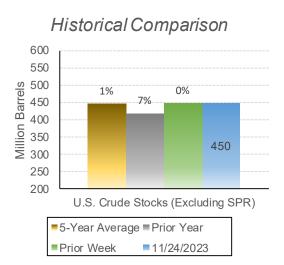
- 1. Data from USEIA, see references section for detailed citations. Visualizations by NYSERDA.
- 2. Graphics summarize available USEIA data from the most recent week ending on Fridays, noted by the date.



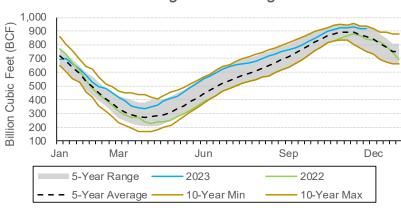
National Crude and East Region Natural Gas Inventories

U.S. Crude Weekly Stocks (Excluding Strategic Petroleum Reserve)

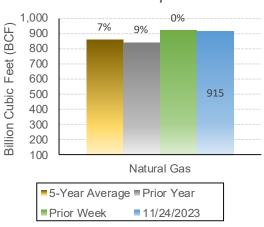












Note:

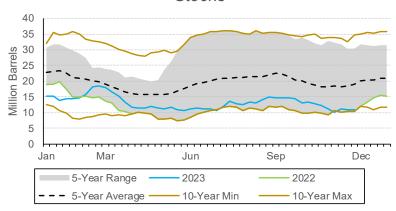
- 1. Data from USEIA, see references section for detailed citations. Visualizations by NYSERDA.
- 2. Graphics summarize available USEIA data from the most recent week ending on Fridays.

Historical comparison bar chart percentages reflect current week. Positive values indicate current week is greater, negative values indicate current week is less than the historical value.

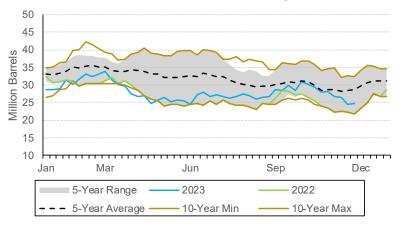


Regional Inventories: Select Liquid Fuels

PADD 1B: Distillate (0 - 15 ppm S) Weekly Stocks



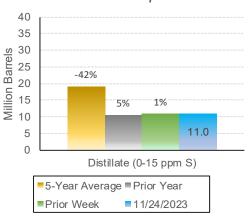
PADD 1B: Total Gasoline Weekly Stocks



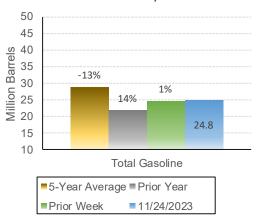
PADD 1B: Propane and Propylene Weekly Inventory



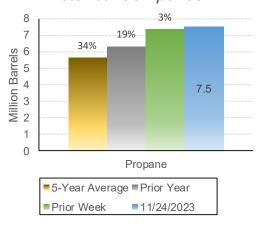
Historical Comparison



Historical Comparison



Historical Comparison



Notes:

1. Data from USEIA, see references section for detailed citations. Visualizations by NYSERDA.

^{2.} Historical comparison bar chart percentages reflect current week. Positive values indicate current week is greater, negative values indicate current week is less than the historical value.



Transportation Fuel Prices Summary

Ultra-low Sulfur Diesel New York Harbor Average Weekly Spot Prices



Conventional Gasoline Average Weekly Spot Prices New York Harbor



For regional NYS
retail price summaries for
transportation fuels,
visit the following
NYSERDA resources:

Transportation Fuel Dashboard

Transportation fuels retail price summaries presented in this report and on the NYSERDA dashboards are collected by the Energy Markets team from AAA and USEIA as part of our ongoing fuels markets analyses and monitoring.

Fuel Type	NYS Average Retail Prices				NYS Average Retail Prices			
ruer Type	11/24/2023 11/17/2023 % Difference		Prior Year	% Difference				
Regular Gasoline (dollars per gallon) ²	\$3.59	\$3.64	-1.2%	\$3.82	-6.0%			
On-road Diesel (dollars per gallon) ²	\$4.62	\$4.64	-0.4%	\$5.92	-21.9%			

Notes:

^{1.} Wholesale price data from USEIA, see references section for detailed citations. Visualizations by NYSERDA.

^{2.} Retail price data from AAA, see references section for detailed citations. Visualizations by NYSERDA.



Heating Fuel Prices Summary

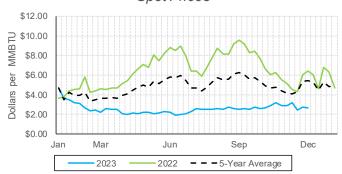
No. 2 Heating Oil Average Weekly Spot Prices New York Harbor



Propane Mt. Belvieu Average Weekly Spot Prices



Natural Gas Henry Hub Average Weekly Spot Prices



Weekly Survey Results by Fuel Type	NYS Average Retail Prices				
Weekly Survey Results by Fuel Type	11/27/2023	11/20/2023	% Difference	Prior Year	% Difference
Ultra-low #2 Heating Oil Posted Credit Prices	\$4.361	\$4.337	0.6%	\$5.312	-17.9%
(dollars per gallon) ²	Ψ4.501	φ4.337	0.076	φυ.υ12	-17.970
Propane Posted Credit Prices - 1,100 gallon usage	\$3.293	\$3.278	0.5%	\$3.416	-3.6%
(dollars per gallon) ²	φ3.293	φ3.276	0.576	φ3.410	-3.076
Kerosene Posted Credit Prices	\$5.282	\$5.284	0.0%	\$7.389	-28.5%
(dollars per gallon) ²	φ3.202	φ5.264	0.076	φ1.309	-20.576
Monthly USEIA Reporting	September 2023	August 2023	% Difference	September 2022	% Difference
Monthly Average Residential Natural Gas Prices (dollars per Therm) ³	\$2.030	\$2.197	-7.6%	\$2.729	-25.6%

For regional NYS retail price summaries for heating fuels, visit the following NYSERDA resources:

<u>Home Heating Oil Prices Dashboard</u> <u>Kerosene Prices Dashboard</u>

Propane Prices Dashboard

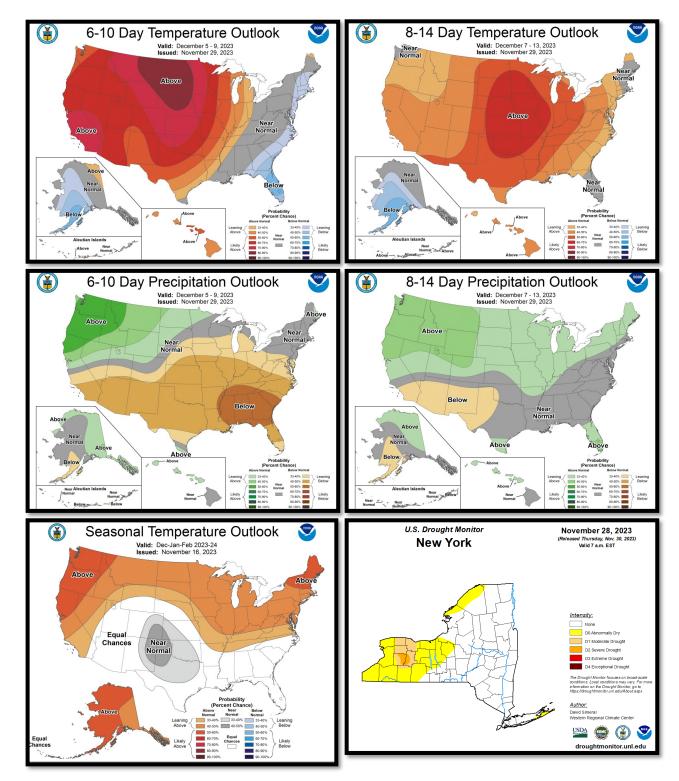
Heating fuels retail price summaries presented in this report and on the NYSERDA dashboards are part of the USEIA State Heating Oil and Propane Program/ NYSERDA Heating Fuel Prices surveys.

Notes:

- Wholesale price data from USEIA, see references section for detailed citations. Visualizations by NYSERDA.
- Retail price data from USEIA & NYSERDA, see references section for detailed citations. Visualizations by NYSERDA. Highlighted cells indicate price correction from prior week.
- Residential natural gas price data from USEIA, see references section for detailed citations. Visualization by NYSERDA.



Weather Outlook and Seasonal Threat Monitoring

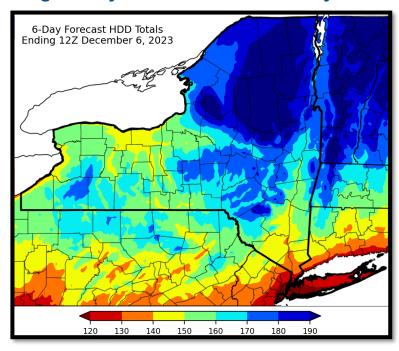


Notes:

- 1. Temperature and precipitation outlook graphics from NOAA. See references section for detailed citations.
- 2. Seasonal threat monitoring for winter season. Graphics from NOAA. See reference section for detailed citation.
- 3. Seasonal threat monitoring for drought conditions during the spring/summer. Graphic from National Drought Mitigation Center. See references section for detailed citation.



Degree Days Outlook and Summary



City	6-Day HDD Forecast	Normal	% Difference	
Albany	159	183	М	
Binghamton	162	199	-19%	
Buffalo	149	179	-17%	
Glens Falls	173	204	-15%	
Massena	183	217	-16%	
NYC	113	128	-12%	
Rochester	150	176	-15%	
Syracuse	153	183	-16%	
Watertown	165	200	-18%	

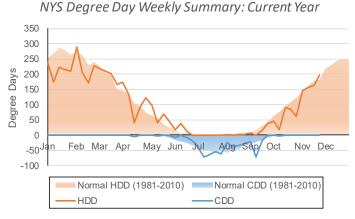
Forecast Dates:

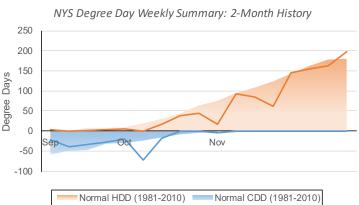
11/30/2023 - 12/05/2023

Notes:

1. M = Missing data

We have transitioned to solely reporting heating degree days.





CDD

For regional NYS
Heating and Cooling
Degree Data along with
additional information,
visit the following
NYSERDA resources:

Heating Degree Data

Monthly Degree Day Data (Heating & Cooling)

Notes:

HDD

- Heating degree day (HDD) forecast from NOAA & Northeast Regional Climate Center at Cornell University (NRCC). See references section for detailed citations.
- 2. HDD and Cooling Degree Day (CDD) data from NOAA. Positive values represent HDD and negative values represent CDD. See reference section for detailed citation. Visualization by NYSERDA.



References

National and Regional Fuel Inventories

USEIA. 2022. U.S. Stocks of Crude Oil and Petroleum Products. Available online: https://www.eia.gov/dnav/pet/xls/PET_STOC_WSTK DCU NUS W.xls.

USEIA. 2022. Weekly Central Atlantic (PADD 1B) Ending Stocks of Distillate Fuel Oil, 0 to 15 ppm Sulfur (Thousand Barrels. Available online: https://www.eia.gov/dnav/pet/hist_xls/WD0ST_R1Y_1w.xls.

USEIA. 2022. Weekly Central Atlantic (PADD 1B) Ending Stocks of Total Gasoline (Thousand Barrels). Available online: https://www.eia.gov/dnav/pet/hist_xls/WGTST1B1w.xls.

USEIA. 2022. Weekly Central Atlantic (PADD 1B) Propane and Propylene Ending Stocks Excluding Propylene at Terminal (Thousand Barrels). Available online: https://www.eia.gov/dnav/pet/hist_xls/WPRST1B1w.xls.

National and Regional Price Summaries

AAA. 2022. National and State Gas Prices. *New York Average Gas Prices*. Available online: https://gasprices.aaa.com/?state=NY.

USEIA. 2022. Spot Prices for Crude Oil and Petroleum Products. Available online: https://www.eia.gov/dnav/pet/xls/PET PRI SPT S1 D.xls.

USEIA. 2022. Natural Gas. *Natural Gas Spot and Future Prices (NYMEX)*. Available online: https://www.eia.gov/dnav/ng/xls/NG PRI FUT S1 D.xls.

USEIA & NYSERDA. 2022. State Heating Oil and Propane Program/NYSERDA Heating Fuel Prices Survey. Available online: https://www.eia.gov/petroleum/heatingoilpropane/.

Weather Outlook and Data

National Oceanic and Atmospheric Administration (NOAA). 2022. National Weather Service Climate Prediction Center. Temperature and Precipitation Outlooks. Available online: https://www.cpc.ncep.noaa.gov/.

NOAA and Northeast Regional Climate Center (NRCC) at Cornell University. 2022. Weekly HDD Summary for New York. Available online: http://www.nrcc.cornell.edu/industry/hdd/.

NOAA. National Weather Service Climate Prediction Center. Degree Days Statistics. Available online: https://www.cpc.ncep.noaa.gov/products/analysis-monitoring/cdus/degree-days/.

National Drought Mitigation Center. U.S. Drought Monitor. New York. Available online at: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NY.

Note that there may be slight differences between USEIA reported values and this NYSERDA summary due to methodology differences.

Developed weekly by the NYSERDA Energy Markets team, part of the Energy & Environmental Analysis Group. For any questions, please reach out to:

Brad Leach, Senior Advisor, Brad.Leach@nyserda.ny.gov, 518-862-1090 x3364

Joseph Osso, Jr., Project Manager, Joseph Osso@nyserda.ny.gov, 518-862-1090 x3345