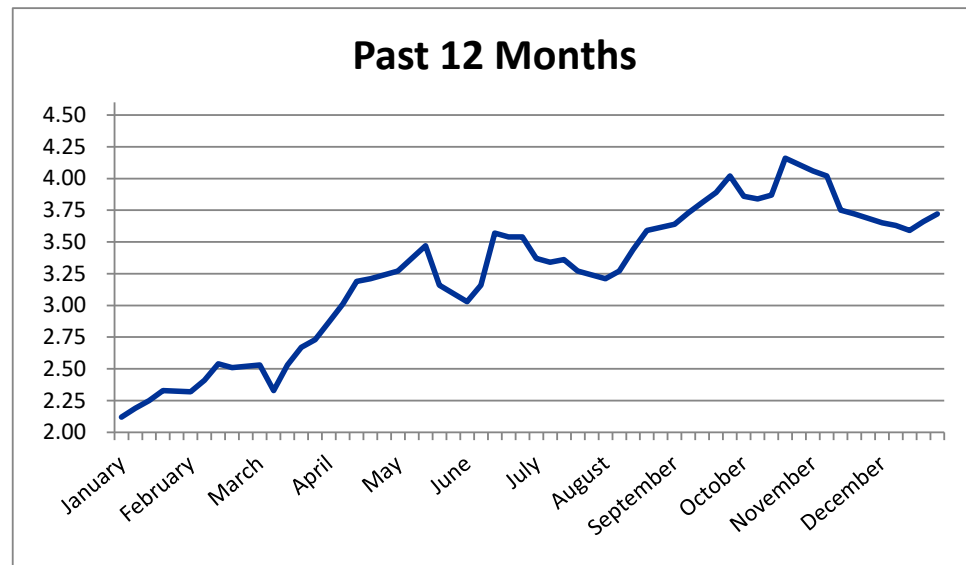
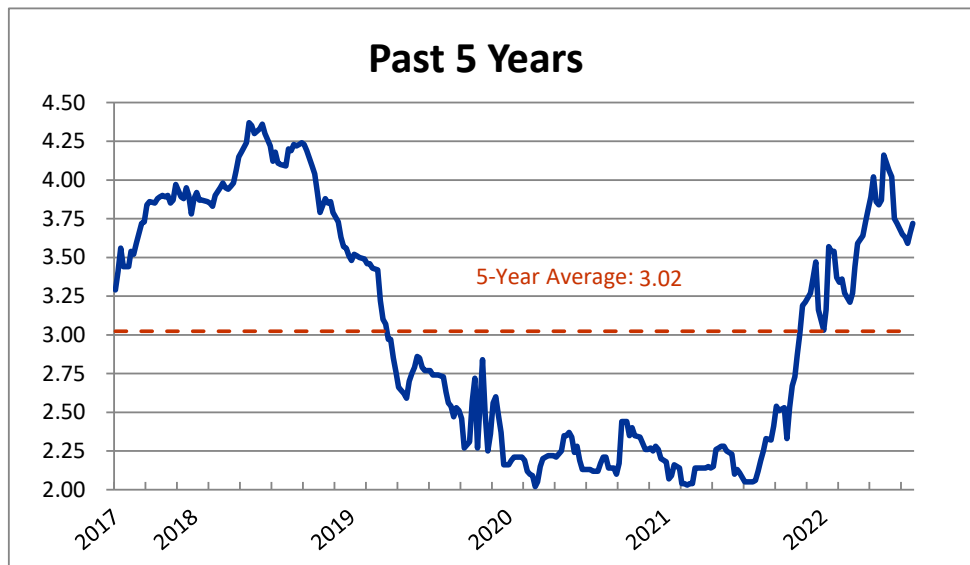


# TEXAS BOND MARKET UPDATE - JANUARY 2023

## BOND BUYER'S INDEX

(as detailed on reverse side)



## REPRESENTATION OF RECENT TEXAS BOND SALES

(as reported to the Municipal Advisory Council of Texas)

Issuer	Issue Size (000's)	Sale Date	Bank Qualified?	S&P Rating	Credit Enhanced?	Call Date	Yield to Maturity for Bonds Maturing in:				
							2027	2032	2037	2042	2047
City of Richmond	\$ 12,295	12/12/2022	No	AA-	No	3/1/2032	2.750%	2.910%	3.880%	4.200%	n/a
Town of Northlake	\$ 14,300	12/8/2022	No	AA	No	2/15/2031	2.700%	3.070%	3.827%	4.060%	n/a
City of Rockwall	\$ 32,005	12/19/2022	No	AA+	No	8/1/2032	2.650%	2.800%	3.799%	4.080%	n/a
Hall County	\$ 3,900	12/13/2022	Yes	A	No	1/15/2033	3.130%	3.380%	4.242%	4.461%	4.633%
Malakoff ISD	\$ 6,835	12/14/2022	Yes	Aaa*	PSF	2/15/2026	2.890%	n/a	n/a	n/a	n/a

\*Moody's

compliments of

**John Martin - Michael Martin - HilltopSecurities**

Phone: (214) 859-9447

E-mail: [john.martin@hilltopsecurities.com](mailto:john.martin@hilltopsecurities.com)

Phone: (214) 859-1731

E-mail: [michael.martin@hilltopsecurities.com](mailto:michael.martin@hilltopsecurities.com)



MONTH	WEEK	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
January	1	4.32	5.24	4.25	5.08	3.83	3.68	4.75	3.42	3.45	3.78	3.44	4.09	2.73	2.17	<b>2.12</b>
	2	4.21	5.02	4.31	5.39	3.62	3.60	4.68	3.29	3.45	3.72	3.54	4.20	2.63	2.21	<b>2.19</b>
	3	4.15	4.80	4.31	5.41	3.60	3.53	4.55	3.36	3.37	3.83	3.52	4.19	2.56	2.21	<b>2.25</b>
	4	4.29	5.13	4.30	5.25	3.68	3.54	4.50	3.36	3.38	3.87	3.59	4.23	2.54	2.14	<b>2.33</b>
	5		5.16	4.39				3.67	4.48					4.22	2.47	
February	1	4.39	4.96	4.36	5.25	3.60	3.68	4.46	3.49	3.30	3.87	3.72	4.23	2.53	2.14	<b>2.32</b>
	2	4.33	4.89	4.34	5.29	3.70	3.72	4.46	3.60	3.27	3.88	3.73	4.24	2.51	2.10	<b>2.41</b>
	3	4.47	4.89	4.38	5.10	3.65	3.74	4.44	3.62	3.27	3.94	3.84	4.23	2.46	2.17	<b>2.54</b>
	4	4.66	4.87	4.36	4.95	3.69	3.74	4.38	3.62	3.34	3.92	3.86	4.19	2.27	2.44	<b>2.51</b>
	5	5.11														
March	1	4.92	4.96	4.34	4.90	3.72	3.86	4.41	3.68	3.34	3.95	3.85	4.09	2.31	2.44	<b>2.53</b>
	2	4.94	5.03	4.33	4.91	3.84	4.00	4.47	3.62	3.42	4.02	3.88	4.04	2.57	2.35	<b>2.33</b>
	3	4.88	4.98	4.32	4.86	3.95	3.99	4.51	3.62	3.40	4.02	3.89	3.92	2.72	2.40	<b>2.53</b>
	4	4.96	5.00	4.44	4.91	4.01	3.99	4.43	3.52	3.38	3.91	3.90	3.79	2.27	2.35	<b>2.67</b>
	5					4.02					3.38	3.86	3.89			<b>2.73</b>
April	1	4.90	4.92	4.44	5.00	4.08	3.96	4.44	3.49	3.28	3.83	3.90	3.88	2.84	2.34	<b>2.87</b>
	2	4.61	4.92	4.45	5.04	3.97	3.93	4.32	3.49	3.30	3.77	3.85	3.85	2.49	2.30	<b>3.01</b>
	3	4.62	4.78	4.43	5.06	3.90	3.89	4.32	3.45	3.28	3.71	3.87	3.86	2.25	2.26	<b>3.19</b>
	4	4.68	4.57	4.37	4.98	3.86	3.90	4.33	3.52	3.32	3.82	3.97	3.79	2.36	2.26	<b>3.21</b>
	5				4.86				3.62					2.56	2.27	
May	1	4.63	4.70	4.37	4.69	3.81	3.77	4.33	3.74	3.32	3.82	3.89	3.73	2.60	2.25	<b>3.27</b>
	2	4.62	4.62	4.29	4.61	3.71	3.67	4.31	3.74	3.32	3.81	3.88	3.63	2.48	2.28	<b>3.37</b>
	3	4.53	4.54	4.32	4.55	3.75	3.61	4.26	3.81	3.26	3.73	3.95	3.57	2.37	2.26	<b>3.47</b>
	4	4.52	4.44	4.27	4.53	3.81	3.70	4.28	3.73	3.26	3.69	3.90	3.56	2.16	2.20	<b>3.16</b>
	5	4.62	4.61	4.28		3.77	3.84	4.29				3.78	3.51			
June	1	4.59	4.71	4.28	4.51	3.92	3.93	4.37	3.81	3.26	3.61	3.88	3.48	2.16	2.18	<b>3.03</b>
	2	4.69	4.86	4.37	4.49	3.95	4.16	4.37	3.87	3.03	3.53	3.92	3.52	2.19	2.07	<b>3.16</b>
	3	4.76	4.86	4.40	4.49	3.95	4.37	4.36	3.79	2.99	3.53	3.87	3.51	2.21	2.09	<b>3.57</b>
	4	4.83	4.79	4.40	4.46	3.95	4.63	4.29	3.80	2.90	3.53	3.87	3.50	2.21	2.16	<b>3.54</b>
	5									2.85	3.58					
July	1	4.67	4.81	4.38	4.59	3.94	4.39	4.31	3.85	2.80	3.60	3.86	3.49	2.21	2.14	<b>3.37</b>
	2	4.56	4.71	4.36	4.65	3.83	4.55	4.38	3.76	2.80	3.61	3.85	3.46	2.19	2.04	<b>3.34</b>
	3	4.65	4.68	4.37	4.51	3.75	4.52	4.36	3.82	2.87	3.51	3.83	3.46	2.12	2.04	<b>3.36</b>
	4	4.77	4.69	4.26	4.46	3.61	4.77	4.29	3.75	2.85	3.52	3.90	3.43	2.10	2.03	<b>3.27</b>
	5		4.69	4.21	4.47			4.33	3.75					2.09	2.04	
August	1	4.74	4.65	4.16	4.19	3.66	4.70	4.31	3.75	2.85	3.50	3.95	3.42	<b>2.02</b>	2.04	<b>3.21</b>
	2	4.75	4.65	4.06	3.97	3.75	4.73	4.24	3.69	2.85	3.52	3.98	3.22	2.05	2.14	<b>3.27</b>
	3	4.67	4.58	4.03	3.83	3.80	4.80	4.21	3.73	2.84	3.57	3.95	3.10	2.15	2.14	<b>3.44</b>
	4	4.64	4.53	3.88	4.09	3.76	4.91	4.17	3.79	2.84	3.53	3.94	3.07	2.20	2.14	<b>3.59</b>
	5	4.68				3.72	4.96				3.51	3.96	2.97			
September	1	4.62	4.37	3.86	4.14	3.73	5.03	4.09	3.82	2.84	3.49	3.98	2.97	2.22	2.14	<b>3.64</b>
	2	4.54	4.33	3.92	4.05	3.79	4.93	4.14	3.82	2.83	3.56	4.06	2.85	2.22	2.15	<b>3.73</b>
	3	5.03	4.20	3.89	4.07	3.72	4.66	4.17	3.78	2.96	3.60	4.15	2.76	2.22	2.14	<b>3.81</b>
	4	5.23	4.04	3.83	3.85	3.67	4.53	4.11	3.71	2.98	3.64	4.18	2.66	2.21	2.15	<b>3.89</b>
	5				3.93					3.06					2.26	<b>4.02</b>
October	1	5.36	3.94	3.84	4.14	3.61	4.53	4.11	3.67	3.20	3.63	4.24	2.62	2.25	2.27	<b>3.86</b>
	2	5.47	4.06	3.84	4.17	3.64	4.57	4.01	3.68	3.28	3.61	4.37	2.59	2.35	2.28	<b>3.84</b>
	3	<b>6.01</b>	4.32	3.82	4.08	3.68	4.68	3.87	3.68	3.28	3.53	4.35	2.70	2.35	2.28	<b>3.87</b>
	4	5.32	4.31	3.84	4.12	3.68	4.56	3.90	3.67	3.32	3.65	4.30	2.75	2.37	2.25	<b>4.16</b>
	5	5.35	4.39	3.96			4.48	3.90	3.66				2.79	2.34		
November	1	5.24	4.41	4.02	4.02	3.67	4.56	3.98	3.69	3.27	3.67	4.33	2.86	2.24	2.23	<b>4.06</b>
	2	5.14	4.40	4.24	4.02	3.55	4.64	3.98	3.74	3.52	3.49	4.36	2.85	2.28	2.10	<b>4.02</b>
	3	5.13	4.35	4.72	4.09	3.41	4.60	3.93	3.65	3.75	3.52	4.30	2.79	2.19	2.13	<b>3.75</b>
	4	5.39	4.33	4.60	4.07	3.37	4.61	3.94	3.65	3.80	3.51	4.26	2.77	2.13	2.11	<b>3.72</b>
	5					3.29					3.59	4.22				
December	1	5.58	4.24	4.65	4.12	3.27	4.70	3.83	3.57	4.03	3.29	4.12	2.77	2.13	2.05	<b>3.65</b>
	2	5.85	4.19	4.86	3.93	3.44	4.74	3.65	3.57	3.78	3.41	4.18	2.74	2.13	2.05	<b>3.63</b>
	3	5.46	4.18	5.15	3.92	3.64	4.73	3.65	3.57	3.88	3.56	4.11	2.74	2.12	2.05	<b>3.59</b>
	4	5.33	4.21	5.00	3.92	3.58	4.73	3.65	3.57	3.83	3.44	4.10	2.74	2.12	2.05	<b>3.66</b>
	5			4.95	3.88			3.56		3.78				2.12	2.06	<b>3.72</b>

The Bond Buyer's 20-Bond Index is determined by a poll taken of several investment banks each week of the 20 year yield of outstanding general obligation bonds from a select group of municipalities across the nation with an average credit rating of "AA".

## Weekly Commodity Sheet - Energy: December 16, 2022

HTS Commodities

### Active Commodity Contracts

Source: Bloomberg

	12/16/22	12/9/22	Net Chg	12/16/21	YoY Net	
					Chg	YoY %Chg
RBOB Gasoline NYMEX (\$/gal)	2.132	2.056	0.076	2.178	-0.046	-2.09%
ULSD NYMEX (HO) (\$/gal)	3.120	2.794	0.326	2.266	0.854	+37.66%
Natural Gas NYMEX (\$/mmbtu)	6.600	6.245	0.355	3.766	2.834	+75.25%
Crude Oil NYMEX (\$/barrel)	74.290	71.020	3.270	72.380	1.910	+2.64%

### Fixed Price Projection<sup>1</sup>

Source: Bloomberg

	1Q23	2Q23	3Q23	4Q23	1Q24
RBOB Gasoline NYMEX (\$/gal)	2.222	2.336	2.223	2.223	2.118
ULSD NYMEX (HO) (\$/gal)	2.973	2.753	2.709	2.709	2.636
Natural Gas NYMEX (\$/mmbtu)	6.168	5.157	5.280	5.280	5.647
Crude Oil NYMEX (\$/barrel)	74.660	74.250	73.390	73.390	71.350

### Commentary

US WTI crude oil and crude oil product futures closed higher this week as the domestic supply scenario and optimism about China's strategic reopening were supportive. The prompt NYMEX WTI futures contract, January, closed +4.5% at \$74.26/bbl. The January ULSD futures price moved back over the \$3.00/gal mark and was +12% higher at \$3.1208/gal. The prompt reformulated gasoline was +3% this week at \$2.1335/gal. NYMEX natural gas as was +6% at \$6.602/mmBtu.

Recently, the US crude and crude products narratives have been playing a tug of war over supply and demand related fundamentals where the primary themes have remained intractable variables of the trade. The first half of 2022 was all about the tightness of global and domestic supplies and a fear of a world without Russian energy. The prompt WTI contract traded at a multi-year high, slightly above \$130/bbl. Crude products, diesel and gasoline, also realized record prices during this time. Both domestic and global refineries were running at maximum capacity to help offset low stocks that were a result of low investment and falling total capacity both before and during COVID. The prompt NYMEX ULSD futures contract made a record high of \$5.2215/gal and the prompt reformulated gasoline futures contract reached a record high of \$4.3260/gal. US natural gas demand and prices were supported by the largest LNG export program on record as European gas was held hostage by Russia cutting off supplies.

The second half of 2022 was about demand destruction. High prices and global central bank attempts to contain historically high inflationary pressures helped reduce global energy demand. Between the Fed's commitment to slow downstream energy demand to offset the intractable upstream supply related pressures, China never fully emerging from a zero-COVID policy, slowing global growth, a crumbling European economy and a price cap on Russian crude and crude products, cash and futures prices gave back all of their first half gains. Despite diesel and gasoline inventories being at historical lows, we believe that these variables will represent the cornerstone of the crude oil and products bearish thesis as the calendar turns to 2023.

While supplies of diesel and gasoline will remain structurally tight and US/global refining capacity will be capped, in 2023 we see the futures market continuing to demand proof that the higher prices are warranted. In 2023 there is a temptation to look at the diesel and gasoline fundamentals through a bearish lens. However, we see the tight domestic supplies of diesel, heating oil, jet fuel and gasoline creating both regional cash price and futures market volatility. China needs revenue and the overall social paradigm remains fragile and full of angst which we believe are keys for hastening the reopening pace. China's reopening should provide some price tailwinds to US and global crude and crude products. While the Chinese reopening trade may occur slower than the crude and energy bulls will be hoping/praying for, we believe that fundamental bullish surprises will occur in 2023. Depending on the state of the US and global economy, any major change in the bearish thesis in 2023 can result in higher crude and crude product prices. As 2022 ends we like looking for spots in the ULSD and the gasoline curves to place incremental hedges. We particularly see room for price appreciation in these contracts in the spring and early summer of 2023. During this time, low US stocks will have to be refilled, peak driving demand starts, and it is the most opportune time for China to aggressively press with it's opening.

(1) Indications only, valuation as of 12/16/2022; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.

**HTS Commodities**  
a Division of Hilltop Securities  
717 N. Harwood St Ste 3400  
Dallas, Texas 75201  
833-4-HILLTOP

**Amarillo:** 806-350-2400  
**Memphis:** 901-507-9226  
**New York:** 212-699-1005

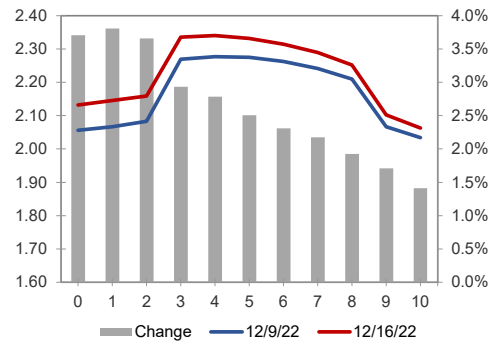
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**St. Paul:** 612-439-6111

[www.htscommodities.com](http://www.htscommodities.com)  
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### RBOB Gasoline NYMEX

Source: Bloomberg

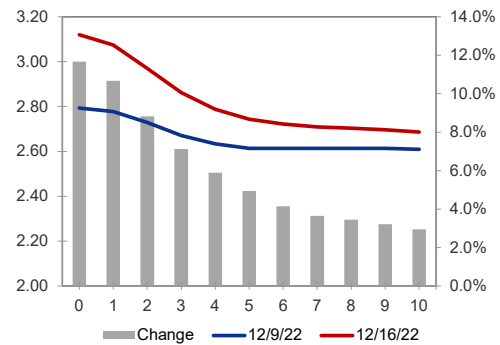
	12/16/22	12/9/22	Net Chg	%Change
JAN 23	2.13	2.06	0.08	+3.71%
FEB 23	2.15	2.07	0.08	+3.81%
MAR 23	2.16	2.08	0.08	+3.66%
APR 23	2.34	2.27	0.07	+2.94%
MAY 23	2.34	2.28	0.06	+2.78%
JUN 23	2.33	2.28	0.06	+2.51%
JUL 23	2.31	2.26	0.05	+2.31%
AUG 23	2.29	2.24	0.05	+2.17%
SEP 23	2.25	2.21	0.04	+1.93%
OCT 23	2.10	2.07	0.04	+1.71%
NOV 23	2.06	2.03	0.03	+1.41%



### ULSD NYMEX (formerly Heating Oil)

Source: Bloomberg

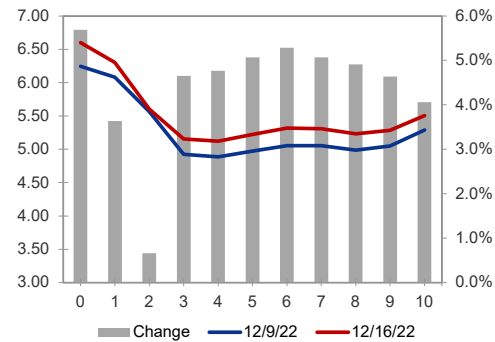
	12/16/22	12/9/22	Net Chg	%Change
JAN 23	3.12	2.79	0.33	+11.68%
FEB 23	3.07	2.78	0.30	+10.68%
MAR 23	2.97	2.73	0.24	+8.83%
APR 23	2.86	2.67	0.19	+7.13%
MAY 23	2.79	2.63	0.16	+5.90%
JUN 23	2.74	2.61	0.13	+4.94%
JUL 23	2.72	2.61	0.11	+4.16%
AUG 23	2.71	2.61	0.10	+3.65%
SEP 23	2.70	2.61	0.09	+3.45%
OCT 23	2.70	2.61	0.08	+3.21%
NOV 23	2.69	2.61	0.08	+2.95%



### Natural Gas NYMEX

Source: Bloomberg

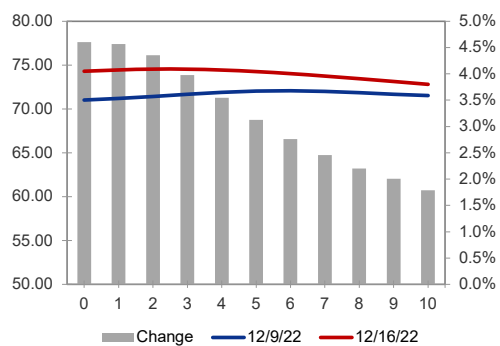
	12/16/22	12/9/22	Net Chg	%Change
JAN 23	6.60	6.25	0.36	+5.68%
FEB 23	6.30	6.08	0.22	+3.63%
MAR 23	5.60	5.57	0.04	+0.66%
APR 23	5.15	4.92	0.23	+4.65%
MAY 23	5.12	4.89	0.23	+4.77%
JUN 23	5.22	4.97	0.25	+5.07%
JUL 23	5.32	5.05	0.27	+5.28%
AUG 23	5.31	5.05	0.26	+5.07%
SEP 23	5.23	4.99	0.25	+4.91%
OCT 23	5.28	5.05	0.23	+4.63%
NOV 23	5.51	5.29	0.22	+4.06%



### Crude Oil NYMEX

Source: Bloomberg

	12/16/22	12/9/22	Net Chg	%Change
JAN 23	74.29	71.02	3.27	+4.60%
FEB 23	74.46	71.21	3.25	+4.56%
MAR 23	74.54	71.43	3.11	+4.35%
APR 23	74.52	71.67	2.85	+3.98%
MAY 23	74.44	71.89	2.55	+3.55%
JUN 23	74.27	72.02	2.25	+3.12%
JUL 23	74.04	72.05	1.99	+2.76%
AUG 23	73.76	71.99	1.77	+2.46%
SEP 23	73.44	71.86	1.58	+2.20%
OCT 23	73.12	71.68	1.44	+2.01%
NOV 23	72.79	71.51	1.28	+1.79%



(1) Indications only, valuation as of 12/16/2022; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.

## Disclosures

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# Weekly Rate Summary: December 16, 2022

## Weekly Summary and Highlights

- (1) ISDA Fallback Rates for USD LIBOR: 1-mo LIBOR -> SOFR (daily) + 0.11448%; 3-mo LIBOR -> SOFR (daily) + 0.26161%.
- (2) A laddered portfolio paired with a **float agreement** may generate additional upfront savings. Please reach out for details or indication.
- (3) We are happy to review your current escrow portfolios to identify potential savings.
- (4) **Happy Holidays!** This is the last distribution for the year.

## Short-Term Interest Rates

Source: Bloomberg

	12/16/22	12/9/22	WoW Chg (bps)	12/16/21	YoY Chg (bps)
SIFMA	3.730%	2.210%	152.0	0.090%	364
SOFR	4.320%	3.800%	52.0	0.050%	427
BSBY (O/N)	3.976%	3.872%	10.4	0.073%	390
Ameribor (O/N)	4.540%	4.026%	51.4	0.102%	444
Fed Funds Effec.	4.330%	3.830%	50.0	0.080%	425
Prime	7.500%	7.000%	50.0	3.250%	425

## Interest Rate Forecast Survey

Source: Bloomberg

	Current	Q422	Q123	Q223	Q323
Target Fed Funds	4.500%	4.50%	5.05%	5.05%	4.95%
3MO Term SOFR	4.509%	4.46%	4.81%	4.79%	4.64%
2YR T-Note	4.236%	4.53%	4.59%	4.38%	4.07%
10YR T-Note	3.446%	3.91%	4.01%	3.88%	3.72%
30YR T-Note	3.495%	3.88%	3.89%	3.82%	3.73%

## Variable Rate Term Structure

Source: Bloomberg

	12/16/22	12/9/22	WoW Chg (bps)	12/16/21	YoY Chg (bps)
1MO Term SOFR	4.321%	4.298%	2.3	0.059%	426
3MO Term SOFR	4.506%	4.496%	1.0	0.071%	443
1MO BSBY	4.264%	4.136%	12.8	0.076%	419
3MO BSBY	4.596%	4.580%	1.6	0.192%	440
1MO LIBOR	4.353%	4.270%	8.3	0.104%	425
3MO LIBOR	4.746%	4.733%	1.3	0.214%	453

## SOFR Forward Swap Rates

Source: Bloomberg

Tenor	Current	3Mo Fwd	6Mo Fwd	1Yr Fwd	2Yr Fwd
5YR	3.386%	3.297%	3.189%	2.986%	2.825%
7YR	3.246%	3.183%	3.105%	2.960%	2.857%
10YR	3.177%	3.135%	3.083%	2.988%	2.925%
20YR	3.105%	3.072%	3.034%	2.961%	2.889%
30YR	2.855%	2.825%	2.791%	2.727%	2.653%

## Hilltop Securities Inc. Structured Products

(214) 953-4020

717 N. Harwood Street  
Suite 3400  
Dallas, Texas 75201

**Brett Weaver**

Investment & Hedging Advisor  
brett.weaver@hilltopsecurities.com

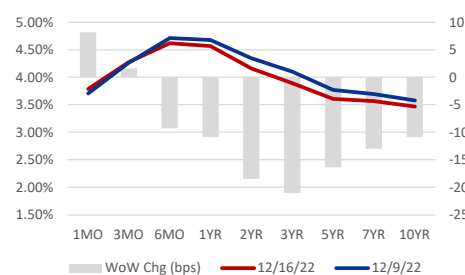
**Amber Chien**

Investment & Hedging Advisor  
amber.chien@hilltopsecurities.com

## U.S. Treasury Yields

Source: Bloomberg

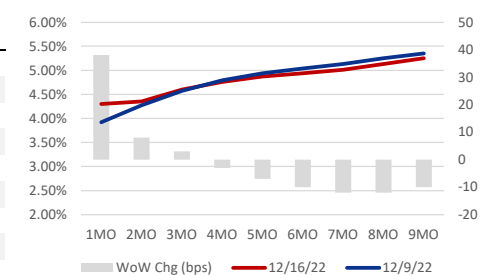
	12/16/22	12/9/22	WoW Chg (bps)
1MO	3.786%	3.704%	8.2
3MO	4.279%	4.263%	1.6
6MO	4.624%	4.717%	-9.3
1YR	4.567%	4.676%	-10.9
2YR	4.159%	4.344%	-18.5
3YR	3.891%	4.101%	-21.0
5YR	3.605%	3.769%	-16.4
7YR	3.565%	3.695%	-13.0
10YR	3.469%	3.578%	-10.9



## CP (A1/P1) Indicative Rates

Source: Bloomberg

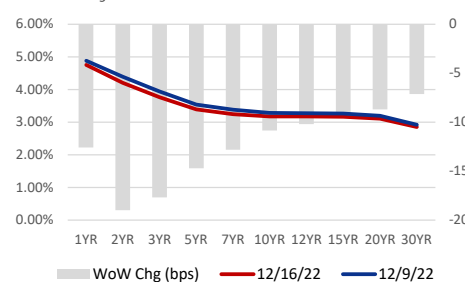
	12/16/22	12/9/22	WoW Chg (bps)
1MO	4.30%	3.92%	38
2MO	4.35%	4.27%	8
3MO	4.60%	4.57%	3
4MO	4.76%	4.79%	-3
5MO	4.87%	4.94%	-7
6MO	4.94%	5.04%	-10
7MO	5.01%	5.13%	-12
8MO	5.13%	5.25%	-12
9MO	5.25%	5.35%	-10



## SOFR Swap Rates

Source: Bloomberg

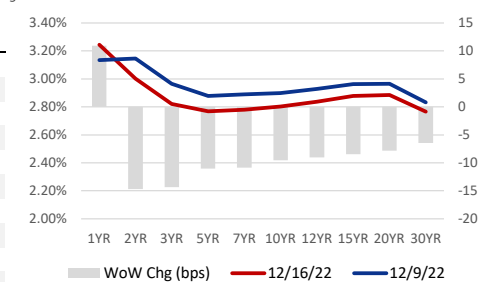
	12/16/22	12/9/22	WoW Chg (bps)
1YR	4.752%	4.878%	-12.6
2YR	4.200%	4.390%	-19.0
3YR	3.759%	3.936%	-17.7
5YR	3.386%	3.534%	-14.7
7YR	3.246%	3.375%	-12.8
10YR	3.177%	3.285%	-10.9
12YR	3.170%	3.272%	-10.2
15YR	3.167%	3.262%	-9.5
20YR	3.105%	3.192%	-8.7
30YR	2.855%	2.926%	-7.1



## Tax Exempt Swap Rates

Source: Bloomberg

	12/16/22	12/9/22	WoW Chg (bps)
1YR	3.244%	3.135%	10.9
2YR	3.001%	3.148%	-14.7
3YR	2.822%	2.965%	-14.3
5YR	2.768%	2.879%	-11.0
7YR	2.780%	2.889%	-10.9
10YR	2.804%	2.899%	-9.5
12YR	2.838%	2.928%	-9.0
15YR	2.879%	2.963%	-8.5
20YR	2.886%	2.964%	-7.8
30YR	2.768%	2.832%	-6.5



Data as of December 16, 2022 1:31 PM Central Time.

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## Weekly Commodity Sheet - Energy: January 6, 2023

HTS Commodities

### Active Commodity Contracts

Source: Bloomberg

	1/6/23	12/30/22	Net Chg	1/6/22	YoY Net Chg	YoY %Chg
RBOB Gasoline NYMEX (\$/gal)	2.255	2.460	-0.205	2.304	-0.049	-2.14%
ULSD NYMEX (HO) (\$/gal)	3.013	3.362	-0.349	2.478	0.536	+21.62%
Natural Gas NYMEX (\$/mmbtu)	3.750	4.475	-0.725	3.812	-0.062	-1.63%
Crude Oil NYMEX (\$/barrel)	73.680	80.260	-6.580	79.460	-5.780	-7.27%

### Fixed Price Projection<sup>1</sup>

Source: Bloomberg

	2Q23	2Q23	3Q23	4Q23	1Q24
RBOB Gasoline NYMEX (\$/gal)	2.408	2.272	2.101	2.101	2.252
ULSD NYMEX (HO) (\$/gal)	2.722	2.685	2.662	2.662	2.575
Natural Gas NYMEX (\$/mmbtu)	3.425	3.684	4.115	4.115	3.549
Crude Oil NYMEX (\$/barrel)	74.370	73.850	72.920	72.920	71.120

### Commentary

The first week of US energy trading saw softer prices for US crude oil, crude products and natural gas. As of Friday morning, the prompt NYMEX ULSD futures contract was at \$3.0304/gal, -8% WoW and the prompt NYMEX reformulated gasoline futures contract was trading at \$2.3028/gal, -6.3% WoW. NYMEX WTI crude oil futures were trading at \$74.87/bbl, -6.7% WoW.

Despite the change in the calendar year, the fundamental narratives for US crude and crude products in 2023 remain the same. Questions about aggregate energy demand inside of a domestic and global economic paradigm where growth is widely expected to slow will continue to define the narrative. Inside of this narrative, the bulls have to press their argument for why crude and product prices are undervalued. From the supply side, US natural gas and crude production are widely expected to rise during 2023. The EIA forecasts that in 2023 domestic natural gas production will expand to 100-101 bcf/d, +2.3-3.5% YoY. Domestic crude oil production is expected to rise to 11.87 mmbbl/d, +5.5% YoY. While slowing demand and increasing crude and product supplies can result in lower prices, in 2023 we view the domestic supply and demand calculus as creating a dynamic and calculating price environment for hedgers.

In 2023, we see the nuances of the US and global supply and demand structure as providing material upside regional price risks for US crude oil and crude products, diesel and gasoline. While we have been writing about these variables for the last few months, the fundamentals are starting to evolve to the bullish side. Low distillate stocks, limited/falling US refinery capacity, perpetual demand pull from Europe and Latin America amid uncertainties about Russian supplies along with the constant narrative about Chinese energy demand as the country re-opens are all catalysts that can spark increases in US futures and rack prices.

For the energy bulls, China's reopening narrative has been a test of patience. However, during the last two weeks the signals from Beijing have been growing brighter. Over the last two weeks, Chinese crude oil demand has been slightly accelerating which can support futures prices. Despite the Fed's comments about maintaining monetary discipline to slow US growth, aka suppressing fuel/energy demand, we believe that increasing Chinese energy demand can occur at the same time when US demand is seasonally expanding and is rebuilding inventories. We see this occurring in early-mid Q2 2023 and if this develops, we see room to support crude and crude product prices.

Last week, the prompt natural gas contract was down over 15% and hit an 18-month low. Warmer weather in Europe and delays with Freeport's LNG terminal reopening after a fire in June 2022 helped pressure the curve. Looking into 2023, we view the US natural gas markets through a lens that has a bearish and bullish tint. Increasing domestic production amid falling industrial demand creates a negative sentiment for prices. However, a robust domestic LNG export program that will only grow stronger in 2023 through increased European and Asian demand are bullish catalysts that can help prevent downside price risks. We also look toward the reopening of Freeport's LNG export terminal and low US stocks as variables that can limit the negative trajectory of US natural gas prices.

(1) Indications only, valuation as of 1/6/2023; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.

**HTS Commodities**  
a Division of Hilltop Securities  
717 N. Harwood St Ste 3400  
Dallas, Texas 75201  
833-4-HILLTOP

**Amarillo:** 806-350-2400  
**Memphis:** 901-507-9226  
**New York:** 212-699-1005

**Park Cities (TX):** 972-624-6373  
**St. Paul:** 612-439-6111

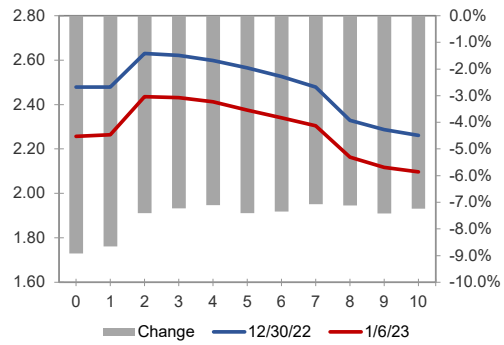
[www.htscommodities.com](http://www.htscommodities.com)  
[www.hilltopsecurities.com](http://www.hilltopsecurities.com)



**RBOB Gasoline NYMEX**

	1/6/23	12/30/22	Net Chg	%Change
FEB 23	2.26	2.48	-0.22	-8.93%
MAR 23	2.26	2.48	-0.21	-8.65%
APR 23	2.44	2.63	-0.19	-7.41%
MAY 23	2.43	2.62	-0.19	-7.23%
JUN 23	2.41	2.60	-0.18	-7.11%
JUL 23	2.38	2.57	-0.19	-7.40%
AUG 23	2.34	2.53	-0.19	-7.34%
SEP 23	2.30	2.48	-0.18	-7.07%
OCT 23	2.16	2.33	-0.17	-7.12%
NOV 23	2.12	2.29	-0.17	-7.42%
DEC 23	2.10	2.26	-0.16	-7.24%

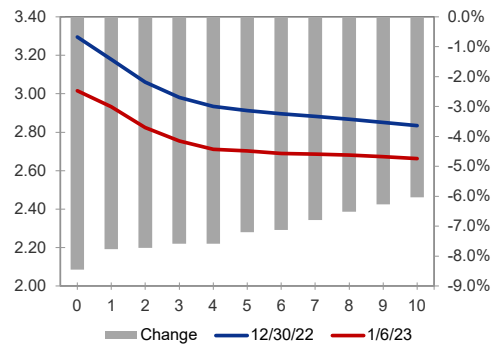
Source: Bloomberg



**ULSD NYMEX (formerly Heating Oil)**

	1/6/23	12/30/22	Net Chg	%Change
FEB 23	3.02	3.30	-0.28	-8.45%
MAR 23	2.93	3.18	-0.25	-7.77%
APR 23	2.82	3.06	-0.24	-7.72%
MAY 23	2.75	2.98	-0.23	-7.58%
JUN 23	2.71	2.93	-0.22	-7.58%
JUL 23	2.70	2.91	-0.21	-7.19%
AUG 23	2.69	2.90	-0.21	-7.13%
SEP 23	2.69	2.88	-0.20	-6.79%
OCT 23	2.68	2.87	-0.19	-6.51%
NOV 23	2.67	2.85	-0.18	-6.27%
DEC 23	2.66	2.83	-0.17	-6.03%

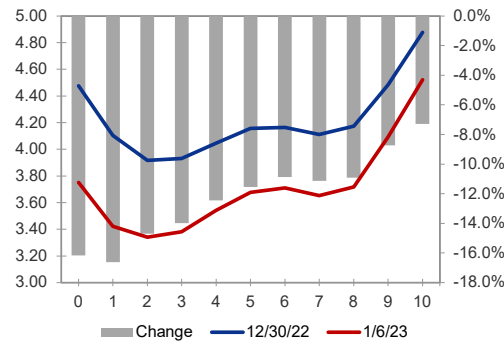
Source: Bloomberg



**Natural Gas NYMEX**

	1/6/23	12/30/22	Net Chg	%Change
FEB 23	3.75	4.48	-0.72	-16.16%
MAR 23	3.42	4.10	-0.68	-16.62%
APR 23	3.34	3.92	-0.58	-14.71%
MAY 23	3.38	3.93	-0.55	-13.99%
JUN 23	3.54	4.05	-0.50	-12.45%
JUL 23	3.68	4.16	-0.48	-11.55%
AUG 23	3.71	4.16	-0.45	-10.88%
SEP 23	3.65	4.11	-0.46	-11.14%
OCT 23	3.72	4.17	-0.46	-10.92%
NOV 23	4.09	4.48	-0.39	-8.74%
DEC 23	4.52	4.88	-0.36	-7.28%

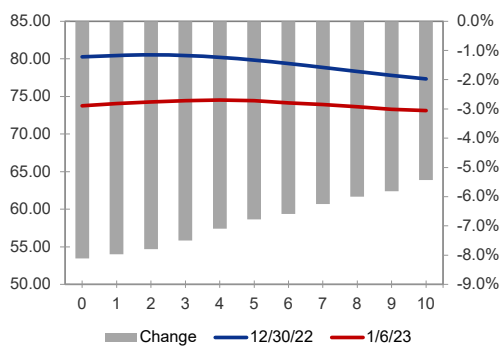
Source: Bloomberg



**Crude Oil NYMEX**

	1/6/23	12/30/22	Net Chg	%Change
FEB 23	73.75	80.26	-6.51	-8.11%
MAR 23	74.04	80.45	-6.41	-7.97%
APR 23	74.25	80.53	-6.28	-7.80%
MAY 23	74.42	80.45	-6.03	-7.50%
JUN 23	74.51	80.20	-5.69	-7.09%
JUL 23	74.42	79.83	-5.41	-6.78%
AUG 23	74.13	79.36	-5.23	-6.59%
SEP 23	73.92	78.85	-4.93	-6.25%
OCT 23	73.62	78.32	-4.70	-6.00%
NOV 23	73.29	77.81	-4.52	-5.81%
DEC 23	73.11	77.31	-4.20	-5.43%

Source: Bloomberg



(1) Indications only, valuation as of 1/6/2023; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.



## Disclosures

Trading on regulated commodity exchanges inherently involves risk of loss and is not suitable for everyone. The leverage created by trading on margin can work against you just as much as it can benefit you, and losses could exceed the entire investment as well as additional cash deposits. You may be required to immediately provide capital upon notice to maintain any or all open positions, and failure to do so in a timely manner could result in penalties, liquidating debit balances, unforeseen financial obligation and the loss of opportunity sought by participating in the commodity futures and options marketplace. Only risk capital should be considered for alternative investment or speculation. Before opening an account you should seek advice from related associations, regulators, certified public accountants, industry professionals and other trusted advisors. Be certain that you understand the risks and can withstand the potential losses associated with SWAPS, futures, options on futures or any other derivatives or cash commodity transactions in which you intend to participate. HTSCommodities may not represent, guarantee or warrant that you will profit from any trading activity nor that realized losses will be limited whatsoever.

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# Weekly Rate Summary: January 06, 2023

## Weekly Summary and Highlights

- (1) Reminder: USD LIBOR will be discontinued after June 30 of THIS YEAR. Our desk is currently helping clients transition before the deadline.
- (2) Guaranteed Investment Contracts (GICs) continue to offer attractive rates for project funds and debt service reserve funds.
- (3) A laddered portfolio paired with a **float agreement** (US Treasury, Agency, or CPs) may generate additional upfront savings. Please contact our desk for details.

### Short-Term Interest Rates

Source: Bloomberg

	1/6/23	12/30/22	WoW Chg (bps)	1/6/22	YoY Chg (bps)
SIFMA	3.130%	3.660%	-53.0	0.060%	307
SOFR	4.310%	4.300%	1.0	0.050%	426
BSBY (O/N)	4.385%	4.393%	-0.8	0.075%	431
Ameribor (O/N)	4.609%	4.635%	-2.6	0.095%	451
Fed Funds Effec.	4.330%	4.330%	0.0	0.080%	425
Prime	7.500%	7.500%	0.0	3.250%	425

### Interest Rate Forecast Survey

Source: Bloomberg

	Current	Q123	Q223	Q323	Q423
Target Fed Funds	4.500%	5.00%	5.05%	4.95%	4.70%
3MO Term SOFR	4.625%	4.92%	4.94%	4.76%	4.41%
2YR T-Note	4.458%	4.51%	4.41%	4.14%	3.81%
10YR T-Note	3.718%	3.85%	3.80%	3.68%	3.51%
30YR T-Note	3.794%	3.88%	3.89%	3.82%	3.73%

### Variable Rate Term Structure

Source: Bloomberg

	1/6/23	12/30/22	WoW Chg (bps)	1/6/22	YoY Chg (bps)
1MO Term SOFR	4.413%	4.358%	5.5	0.055%	436
3MO Term SOFR	4.656%	4.587%	6.8	0.104%	455
1MO BSBY	4.346%	4.357%	-1.1	0.080%	427
3MO BSBY	4.685%	4.624%	6.2	0.172%	451
1MO LIBOR	4.402%	4.392%	1.0	0.104%	430
3MO LIBOR	4.810%	4.767%	4.3	0.231%	458

### SOFR Forward Swap Rates

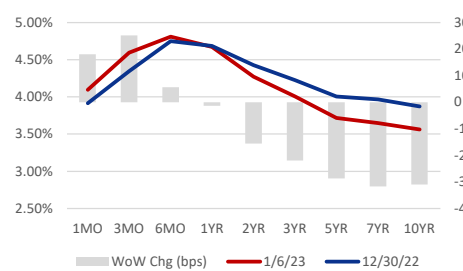
Source: Bloomberg

Tenor	Current	3Mo Fwd	6Mo Fwd	1Yr Fwd	2Yr Fwd
5YR	3.453%	3.359%	3.247%	3.035%	2.868%
7YR	3.309%	3.242%	3.162%	3.010%	2.901%
10YR	3.233%	3.189%	3.136%	3.035%	2.970%
20YR	3.172%	3.139%	3.101%	3.027%	2.956%
30YR	2.944%	2.915%	2.881%	2.816%	2.744%

### U.S. Treasury Yields

Source: Bloomberg

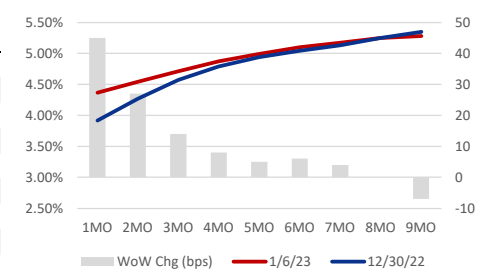
	1/6/23	12/30/22	WoW Chg (bps)
1MO	4.097%	3.916%	18.1
3MO	4.595%	4.343%	25.2
6MO	4.810%	4.753%	5.7
1YR	4.673%	4.687%	-1.4
2YR	4.270%	4.426%	-15.6
3YR	4.005%	4.224%	-21.9
5YR	3.717%	4.004%	-28.7
7YR	3.647%	3.965%	-31.8
10YR	3.565%	3.875%	-31.0



### CP (A1/P1) Indicative Rates

Source: Bloomberg

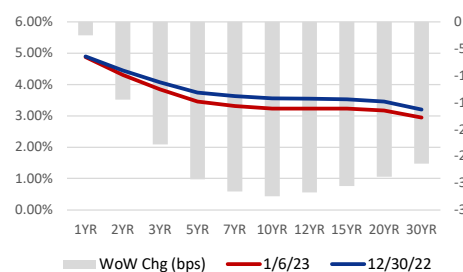
	1/6/23	12/30/22	WoW Chg (bps)
1MO	4.37%	3.92%	45
2MO	4.54%	4.27%	27
3MO	4.71%	4.57%	14
4MO	4.87%	4.79%	8
5MO	4.99%	4.94%	5
6MO	5.10%	5.04%	6
7MO	5.17%	5.13%	4
8MO	5.25%	5.25%	0
9MO	5.28%	5.35%	-7



### SOFR Swap Rates

Source: Bloomberg

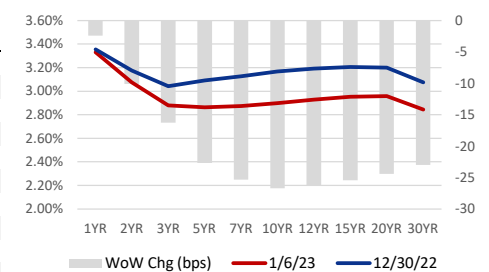
	1/6/23	12/30/22	WoW Chg (bps)
1YR	4.876%	4.901%	-2.5
2YR	4.301%	4.446%	-14.5
3YR	3.840%	4.069%	-22.8
5YR	3.453%	3.746%	-29.3
7YR	3.309%	3.624%	-31.6
10YR	3.233%	3.558%	-32.5
12YR	3.227%	3.545%	-31.8
15YR	3.227%	3.532%	-30.6
20YR	3.172%	3.460%	-28.9
30YR	2.944%	3.209%	-26.4



### Tax Exempt Swap Rates

Source: Bloomberg

	1/6/23	12/30/22	WoW Chg (bps)
1YR	3.333%	3.357%	-2.4
2YR	3.076%	3.177%	-10.1
3YR	2.880%	3.042%	-16.3
5YR	2.864%	3.091%	-22.7
7YR	2.873%	3.127%	-25.4
10YR	2.899%	3.167%	-26.7
12YR	2.928%	3.191%	-26.3
15YR	2.951%	3.206%	-25.4
20YR	2.957%	3.201%	-24.4
30YR	2.844%	3.074%	-23.0



Data as of January 06, 2023 1:11 PM Central Time.

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### Hilltop Securities Inc. Structured Products

(214) 953-4020

717 N. Harwood Street  
Suite 3400  
Dallas, Texas 75201

**Brett Weaver**

Investment & Hedging Advisor  
brett.weaver@hilltopsecurities.com

**Amber Chien**

Investment & Hedging Advisor  
amber.chien@hilltopsecurities.com

## HTS Commodities Energy Updates: January 13, 2023

### Active Commodity Contracts

Source: Bloomberg

	1/13/23	1/6/23	Net Chg	1/13/22	YoY Net	
					Chg	YoY %Chg
RBOB Gasoline NYMEX (\$/gal)	2.533	2.245	0.288	2.384	0.149	+6.24%
ULSD NYMEX (HO) (\$/gal)	3.256	3.005	0.251	2.609	0.647	+24.82%
Natural Gas NYMEX (\$/mmbtu)	3.419	3.710	-0.291	4.270	-0.851	-19.93%
Crude Oil NYMEX (\$/barrel)	79.860	73.770	6.090	82.120	-2.260	-2.75%

### Fixed Price Projection<sup>1</sup>

Source: Bloomberg

	2Q23	2Q23	3Q23	4Q23	1Q24
	RBOB Gasoline NYMEX (\$/gal)	2.650	2.474	2.274	2.274
ULSD NYMEX (HO) (\$/gal)	2.899	2.832	2.795	2.795	2.700
Natural Gas NYMEX (\$/mmbtu)	3.284	3.542	3.982	3.982	3.605
Crude Oil NYMEX (\$/barrel)	80.300	79.170	77.700	77.700	75.080

### Commentary

Last week, the NYMEX crude and product futures moved higher on encouraging fundamental data. The prompt NYMEX ULSD contract was trading +8% WoW, or +\$.2621/gal while the prompt reformulated RBOB contract was +13%, or +.2850/gal.

While we have written and continue to write about how the potential price support for US crude and product will originate from the widely anticipated Chinese post-COVID reopening demand pull. However, we see more relevant variables that are closer to home. Seasonally, domestic distillate supplies continue to be at the bottom of the 20-year historic range. Historically, domestic distillate supplies decline during the winter months as heating oil demand helps draw stocks lower. 2023 should not be any different. With no Russian imports and little imports support from the UK or Rotterdam, we expect regional US stocks to underperform. Despite softening implied domestic distillate demand, we believe that through the balance of the winter domestic stocks will be largely dependent on the weather. Temperatures will influence heating oil use in the eastern population centers, PADD-1 and PADD-1A, where distillate stocks remain historically low. These regions currently witness distillate stocks that are at the bottom of the 10-year ranges.

Compounding the perilously low stocks is a strong US distillate export program. For most of CY 2022, weekly distillate exports were at the top of the 10-year range. We don't see this trend reversing in H2'23. We view the fragile global distillate supply structure along with a realignment of global export flows as catalysts that can support US distillate cash and futures prices. Despite the EIA's January STEO predicting that during 2023 US distillate retail prices will decline by 16% YoY, we see the US playing a larger role in supplying the UK and EU with distillate. Increased export participation can help stimulate domestic disappearance and support prices.

This point about the relationship between US exports and global supply and demand becomes pertinent for US distillate hedgers. As the G-7 Russian energy embargo has taken effect, and as macro economists are predicting a soft economic landing and economic growth throughout the EU zone, both the EU and UK will experience enhanced distillate import demand. This EU demand will originate from Saudi Arabia, UAE and the US. While US crude oil and distillate supplies are expected to expand in 2023, the demand side of the domestic equation needs to be addressed to reinforce the price path of US distillate futures.

As discussed in previous weeks we see structural upside price risks for US distillates in 2023. Low stocks, growing China demand, US exports, a soft landing in the US alongside questions about the efficacy of the G-7's ban on Russian energy are points that cause volatility in the cash and futures markets. In particular, during Q2'23 we see the probability of distillate demand outpacing supplies. Inside of this demand driven environment we like owning OTM calls across the Q2 NYMEX ULSD contracts. We also see opportunities to be bull spread Q2/Q4 contracts. In particular, we like owning HOK'23/HOX'23.

(1) Indications only, valuation as of 1/13/2023; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.

**HTS Commodities**  
**a Division of Hilltop Securities**  
717 N. Harwood St Ste 3400  
Dallas, Texas 75201  
833-4-HILLTOP

**Amarillo:** 806-350-2400  
**Memphis:** 901-507-9226  
**New York:** 212-699-1005

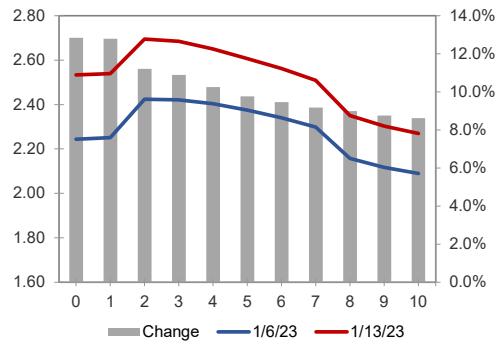
**Park Cities (TX):** 972-624-6373  
**St. Paul:** 612-439-6111

[www.htscommodities.com](http://www.htscommodities.com)  
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**RBOB Gasoline NYMEX**

	1/13/23	1/6/23	Net Chg	%Change
FEB 23	2.53	2.24	0.29	+12.84%
MAR 23	2.54	2.25	0.29	+12.78%
APR 23	2.70	2.42	0.27	+11.21%
MAY 23	2.68	2.42	0.26	+10.89%
JUN 23	2.65	2.40	0.25	+10.25%
JUL 23	2.61	2.38	0.23	+9.76%
AUG 23	2.56	2.34	0.22	+9.46%
SEP 23	2.51	2.30	0.21	+9.18%
OCT 23	2.35	2.16	0.19	+8.99%
NOV 23	2.30	2.12	0.19	+8.76%
DEC 23	2.27	2.09	0.18	+8.62%

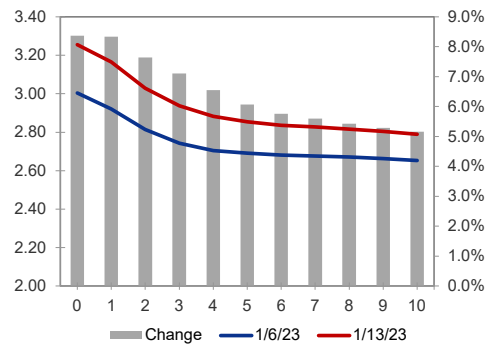
Source: Bloomberg



**ULSD NYMEX (formerly Heating Oil)**

	1/13/23	1/6/23	Net Chg	%Change
FEB 23	3.26	3.00	0.25	+8.37%
MAR 23	3.16	2.92	0.24	+8.34%
APR 23	3.03	2.81	0.22	+7.64%
MAY 23	2.94	2.74	0.19	+7.11%
JUN 23	2.88	2.71	0.18	+6.55%
JUL 23	2.85	2.69	0.16	+6.07%
AUG 23	2.84	2.68	0.15	+5.76%
SEP 23	2.83	2.68	0.15	+5.60%
OCT 23	2.82	2.67	0.15	+5.43%
NOV 23	2.80	2.66	0.14	+5.29%
DEC 23	2.79	2.65	0.14	+5.16%

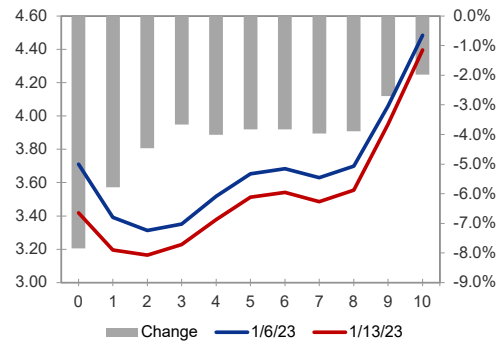
Source: Bloomberg



**Natural Gas NYMEX**

	1/13/23	1/6/23	Net Chg	%Change
FEB 23	3.42	3.71	-0.29	-7.84%
MAR 23	3.20	3.39	-0.20	-5.78%
APR 23	3.17	3.31	-0.15	-4.47%
MAY 23	3.23	3.35	-0.12	-3.67%
JUN 23	3.38	3.52	-0.14	-4.01%
JUL 23	3.51	3.65	-0.14	-3.83%
AUG 23	3.54	3.68	-0.14	-3.83%
SEP 23	3.49	3.63	-0.14	-3.97%
OCT 23	3.55	3.70	-0.14	-3.89%
NOV 23	3.95	4.06	-0.11	-2.71%
DEC 23	4.40	4.49	-0.09	-1.98%

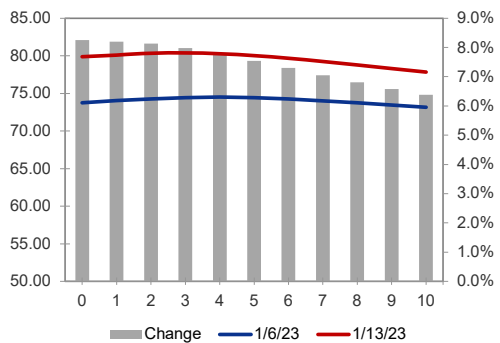
Source: Bloomberg



**Crude Oil NYMEX**

	1/13/23	1/6/23	Net Chg	%Change
FEB 23	79.86	73.77	6.09	+8.26%
MAR 23	80.11	74.04	6.07	+8.20%
APR 23	80.30	74.26	6.04	+8.13%
MAY 23	80.38	74.44	5.94	+7.98%
JUN 23	80.29	74.50	5.79	+7.77%
JUL 23	80.04	74.43	5.61	+7.54%
AUG 23	79.68	74.26	5.42	+7.30%
SEP 23	79.24	74.02	5.22	+7.05%
OCT 23	78.77	73.75	5.02	+6.81%
NOV 23	78.29	73.46	4.83	+6.58%
DEC 23	77.81	73.14	4.67	+6.39%

Source: Bloomberg



(1) Indications only, valuation as of 1/13/2023; includes \$0.00 in customary and transaction expenses; assumes equal monthly volumes.

## Disclosures

Trading on regulated commodity exchanges inherently involves risk of loss and is not suitable for everyone. The leverage created by trading on margin can work against you just as much as it can benefit you, and losses could exceed the entire investment as well as additional cash deposits. You may be required to immediately provide capital upon notice to maintain any or all open positions, and failure to do so in a timely manner could result in penalties, liquidating debit balances, unforeseen financial obligation and the loss of opportunity sought by participating in the commodity futures and options marketplace. Only risk capital should be considered for alternative investment or speculation. Before opening an account you should seek advice from related associations, regulators, certified public accountants, industry professionals and other trusted advisors. Be certain that you understand the risks and can withstand the potential losses associated with SWAPS, futures, options on futures or any other derivatives or cash commodity transactions in which you intend to participate. HTSCommodities may not represent, guarantee or warrant that you will profit from any trading activity nor that realized losses will be limited whatsoever.

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# Weekly Rate Summary: January 13, 2023

## Weekly Summary and Highlights

- (1) Reminder: USD LIBOR will be discontinued after June 30 of THIS YEAR. Our desk is currently helping clients transition before the deadline.
- (2) Guaranteed Investment Contracts (GICs) continue to offer attractive rates for project funds and debt service reserve funds.
- (3) A laddered portfolio paired with a **float agreement** (US Treasury, Agency, or CPs) may generate additional upfront savings. We can provide template agreement for your review.

### Short-Term Interest Rates

Source: Bloomberg

	1/13/23	1/6/23	WoW Chg (bps)	1/13/22	YoY Chg (bps)
SIFMA	2.500%	3.130%	-63.0	0.040%	246
SOFR	4.300%	4.310%	-1.0	0.050%	425
BSBY (O/N)	4.374%	4.385%	-1.1	0.077%	430
Ameribor (O/N)	4.615%	4.613%	0.2	0.104%	451
Fed Funds Effec.	4.330%	4.330%	0.0	0.080%	425
Prime	7.500%	7.500%	0.0	3.250%	425

### Interest Rate Forecast Survey

Source: Bloomberg

	Current	Q123	Q223	Q323	Q423
Target Fed Funds	4.500%	5.00%	5.05%	4.95%	4.70%
3MO Term SOFR	4.658%	4.92%	4.94%	4.76%	4.41%
2YR T-Note	4.145%	4.51%	4.41%	4.14%	3.81%
10YR T-Note	3.440%	3.85%	3.80%	3.68%	3.51%
30YR T-Note	3.577%	3.88%	3.89%	3.82%	3.73%

### Variable Rate Term Structure

Source: Bloomberg

	1/13/23	1/6/23	WoW Chg (bps)	1/13/22	YoY Chg (bps)
1MO Term SOFR	4.483%	4.413%	7.0	0.058%	442
3MO Term SOFR	4.632%	4.656%	-2.4	0.131%	450
1MO BSBY	4.395%	4.346%	4.9	0.082%	431
3MO BSBY	4.715%	4.685%	3.0	0.193%	452
1MO LIBOR	4.454%	4.402%	5.3	0.106%	435
3MO LIBOR	4.792%	4.810%	-1.7	0.239%	455

### SOFR Forward Swap Rates

Source: Bloomberg

Tenor	Current	3Mo Fwd	6Mo Fwd	1Yr Fwd	2Yr Fwd
5YR	3.354%	3.257%	3.144%	2.931%	2.788%
7YR	3.225%	3.158%	3.080%	2.933%	2.846%
10YR	3.176%	3.132%	3.079%	2.981%	2.930%
20YR	3.141%	3.109%	3.071%	3.000%	2.940%
30YR	2.932%	2.904%	2.871%	2.807%	2.742%

### Hilltop Securities Inc. Structured Products

(214) 953-4020

717 N. Harwood Street  
Suite 3400  
Dallas, Texas 75201

**Brett Weaver**

Investment & Hedging Advisor  
brett.weaver@hilltopsecurities.com

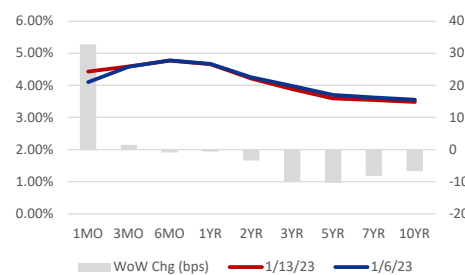
**Amber Chien**

Investment & Hedging Advisor  
amber.chien@hilltopsecurities.com

### U.S. Treasury Yields

Source: Bloomberg

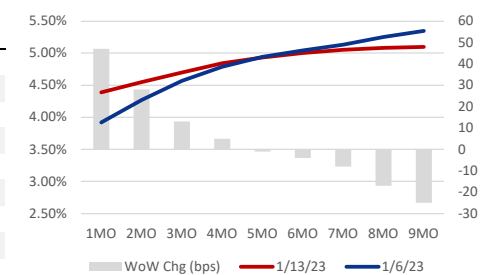
	1/13/23	1/6/23	WoW Chg (bps)
1MO	4.428%	4.100%	32.8
3MO	4.594%	4.579%	1.5
6MO	4.777%	4.786%	-0.9
1YR	4.664%	4.671%	-0.7
2YR	4.213%	4.247%	-3.4
3YR	3.878%	3.979%	-10.1
5YR	3.593%	3.698%	-10.5
7YR	3.545%	3.627%	-8.2
10YR	3.491%	3.558%	-6.7



### CP (A1/P1) Indicative Rates

Source: Bloomberg

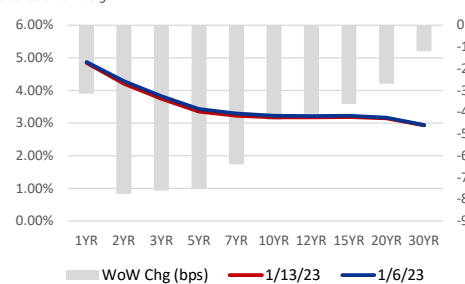
	1/13/23	1/6/23	WoW Chg (bps)
1MO	4.39%	3.92%	47
2MO	4.55%	4.27%	28
3MO	4.70%	4.57%	13
4MO	4.84%	4.79%	5
5MO	4.93%	4.94%	-1
6MO	5.00%	5.04%	-4
7MO	5.05%	5.13%	-8
8MO	5.08%	5.25%	-17
9MO	5.10%	5.35%	-25



### SOFR Swap Rates

Source: Bloomberg

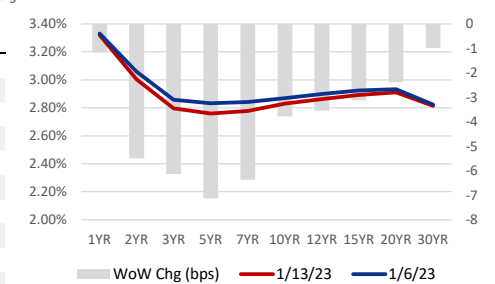
	1/13/23	1/6/23	WoW Chg (bps)
1YR	4.840%	4.872%	-3.2
2YR	4.206%	4.283%	-7.8
3YR	3.743%	3.819%	-7.6
5YR	3.354%	3.429%	-7.5
7YR	3.225%	3.289%	-6.4
10YR	3.176%	3.219%	-4.4
12YR	3.175%	3.216%	-4.1
15YR	3.182%	3.218%	-3.6
20YR	3.141%	3.168%	-2.7
30YR	2.932%	2.944%	-1.2



### Tax Exempt Swap Rates

Source: Bloomberg

	1/13/23	1/6/23	WoW Chg (bps)
1YR	3.319%	3.331%	-1.2
2YR	3.005%	3.060%	-5.5
3YR	2.795%	2.857%	-6.1
5YR	2.760%	2.832%	-7.1
7YR	2.777%	2.840%	-6.4
10YR	2.831%	2.869%	-3.8
12YR	2.862%	2.898%	-3.5
15YR	2.893%	2.924%	-3.1
20YR	2.910%	2.934%	-2.4
30YR	2.813%	2.823%	-1.0



Data as of January 13, 2023 12:42 PM Central Time.

The data underlying the information has been obtained from Bloomberg. HilltopSecurities does not guarantee the accuracy of the underlying data or computations based thereon. The data is intended for informational purposes only and does not constitute legal or investment advice, nor is it an offer or a solicitation of an offer to buy or sell any investment or other specific product. This material has not been prepared in accordance with the guidelines or requirements to promote investment research, it is not a research report and is not intended as such.

# Natural Gas Dashboard

January 13, 2023

HTS Commodities

## Weekly Commentary

Last week, the NYMEX crude and product futures moved higher on encouraging fundamental data. The prompt NYMEX ULSD contract was trading +8% WoW, or +\$.2621/gal while the prompt reformulated RBOB contract was +13%, or +.2850/gal.

While we have written and continue to write about how the potential price support for US crude and product will originate from the widely anticipated Chinese post-COVID reopening demand pull. However, we see more relevant variables that are closer to home. Seasonally, domestic distillate supplies continue to be at the bottom of the 20-year historic range. Historically, domestic distillate supplies decline during the winter months as heating oil demand helps draw stocks lower. 2023 should not be any different. With no Russian imports and little imports support from the UK or Rotterdam, we expect regional US stocks to underperform. Despite softening implied domestic distillate demand, we believe that through the balance of the winter domestic stocks will be largely dependent on the weather. Temperatures will influence heating oil use in the eastern population centers, PADD-1 and PADD-1A, where distillate stocks remain historically low. These regions currently witness distillate stocks that are at the bottom of the 10-year ranges.

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This point about the relationship between US exports and global supply and demand becomes pertinent for US distillate hedgers. As the G-7 Russian energy embargo has taken effect, and as macro economists are predicting a soft economic landing and economic growth throughout the EU zone, both the EU and UK will experience enhanced distillate import demand. This EU demand will originate from Saudi Arabia, UAE and the US. While US crude oil and distillate supplies are expected to expand in 2023, the demand side of the domestic equation needs to be addressed to reinforce the price path of US distillate futures.

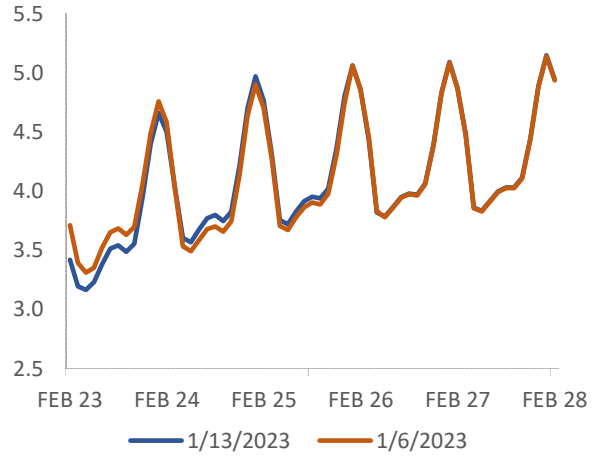
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## NYMEX Natural Gas Futures Curve

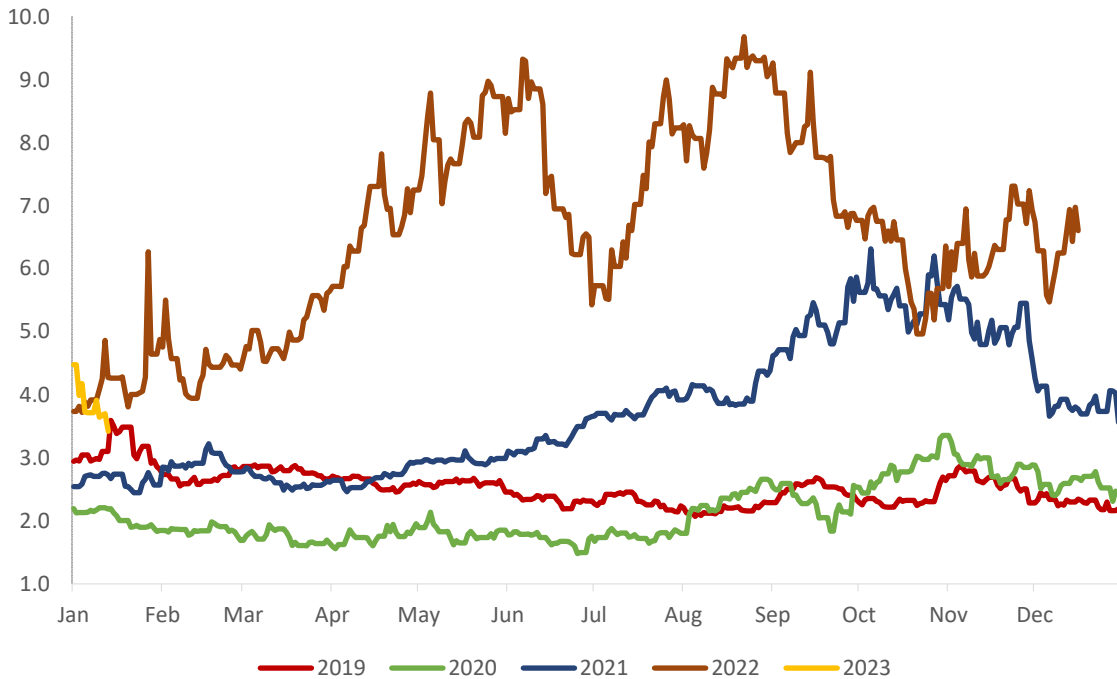
Source: Bloomberg; data as of 01/13/2023

	1/13/23	1/6/23	Net Change	% Change
FEB 23	3.419	3.710	-0.291	-7.8%
MAR 23	3.196	3.392	-0.196	-5.8%
APR 23	3.165	3.313	-0.148	-4.5%
MAY 23	3.229	3.352	-0.123	-3.7%
JUN 23	3.378	3.519	-0.141	-4.0%
JUL 23	3.513	3.653	-0.140	-3.8%
AUG 23	3.542	3.683	-0.141	-3.8%
SEP 23	3.486	3.630	-0.144	-4.0%
OCT 23	3.554	3.698	-0.144	-3.9%
NOV 23	3.950	4.060	-0.110	-2.7%
DEC 23	4.396	4.485	-0.089	-2.0%
JAN 24	4.662	4.759	-0.097	-2.0%



## NYMEX Front Month Seasonal

Source: Bloomberg; data as of 01/13/2023



## Natural Gas Weekly Storage

Source: U.S. Energy Information Administration; data as of 01/13/2023

Region	Stocks (Bcf)			Year ago		5-year average	
	1/6/23	12/30/22	Net Change	Bcf	% Change	Bcf	% Change
East	700	840	9	735	-4.8	702	-0.3
Midwest	823	1040	-16	843	-2.4	826	-0.4
Mountain	153	197	-4	161	-5.0	162	-5.6
Pacific	160	226	-5	206	-22.3	235	-31.9
South Central	1067	1181	27	1096	-2.6	1017	4.9
<b>Total</b>	<b>2902</b>	<b>3483</b>	<b>11</b>	<b>3042</b>	<b>-4.6</b>	<b>2942</b>	<b>-1.4</b>

## Natural Gas Implied Volatility

Source: Bloomberg; data as of 01/13/2023

### 3-Month 50D Implied Volatility (%)



### Volatility Term Structure (%)

Term	1/13/23	1/6/23	Net Change
1M	106.97	99.31	7.66
3M	84.44	77.38	7.06
6M	67.21	66.00	1.22
12M	74.46	75.51	-1.05

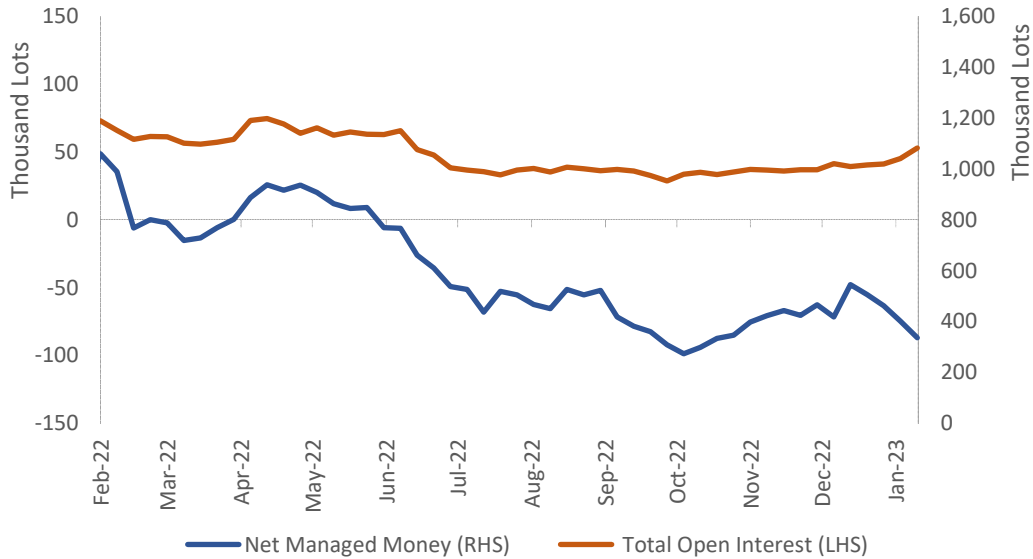
### 3-Month Implied Volatility Skew (%)

Put/Call Delta	1/13/23	1/6/23	Net Change
10DP	96.23	84.44	11.79
25DP	85.02	78.71	6.30
50DP	77.29	72.15	5.14
25DC	70.74	68.25	2.49
10DC	68.84	66.54	2.30

## Natural Gas Futures & Options - Commitment of Traders Report

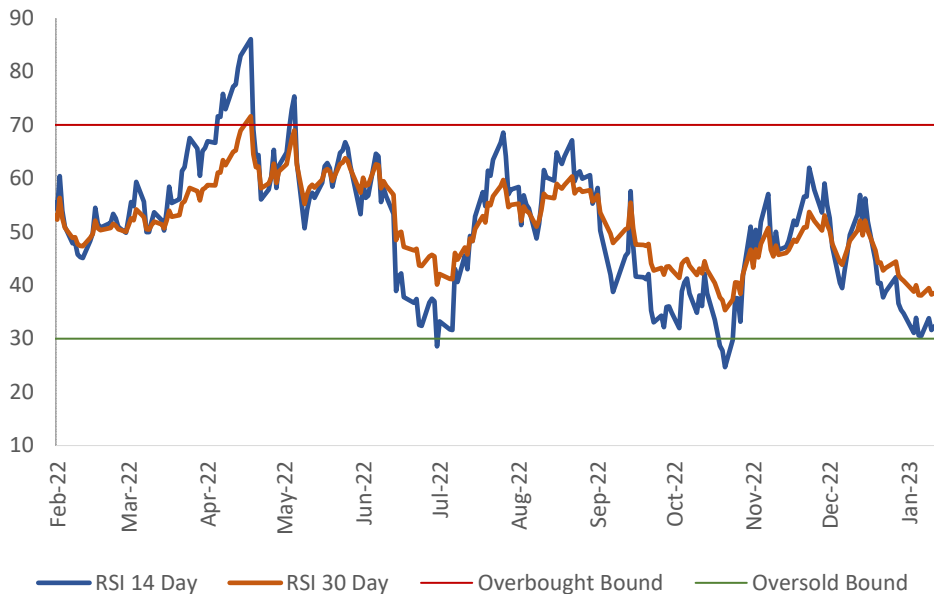
Source: Commodity Futures Trading Commission; data as of 01/13/2023

	1/10/2023	1/3/2023	Net Change	% Change
Net Managed Money (RHS)	(87,220)	(74,840)	(12,380)	-16.5%
Total Open Interest (LHS)	1,080,538	1,039,237	41,301	4.0%



## Front Month Natural Gas Relative Strength Index (Prices)

Source: Bloomberg; data as of 01/13/2023



## Selected Forward Period Fair Value Swaps

Source: Bloomberg; data as of 01/13/2023

	Henry Hub		FGT Z3 Fixed	5D %Change	SONAT	
	Fixed	5D %Change			Fixed	5D %Change
<b>Monthly</b>						
Feb 23	3.492	-7.9%	3.816	-9.2%	3.577	-8.5%
Mar 23	3.245	-6.5%	3.381	-6.1%	3.278	-7.3%
Apr 23	3.206	-5.4%	3.655	-3.7%	3.355	-4.4%
May 23	3.269	-4.6%	3.655	-3.2%	3.419	-4.6%
<b>Quarterly</b>						
Q1-23	3.362	-7.2%	3.587	-7.7%	3.420	-7.9%
Q2-23	3.298	-5.0%	3.734	-3.4%	3.476	-4.5%
Q3-23	3.554	-4.6%	4.223	-3.1%	3.865	-4.2%
Q4-23	3.989	-3.7%	4.390	-2.9%	4.208	-3.4%
<b>Seasonal</b>						
Win 22/23	3.362	-7.2%	3.587	-7.7%	3.420	-7.9%
Sum 23	3.450	-4.8%	3.990	-3.2%	3.681	-4.4%
Win 23/24	4.316	-2.7%	4.711	-2.2%	4.588	-2.3%
Sum 24	3.717	1.5%	4.175	1.8%	3.972	1.4%
<b>Yearly</b>						
2023	3.570	-4.9%	4.024	-3.8%	3.775	-4.6%
2024	4.013	0.4%	4.448	0.7%	4.280	0.4%
2025	4.206	0.6%	4.609	0.7%	4.471	0.6%
2026	4.257	-0.6%	4.676	-0.4%	4.405	-0.5%

## Crude Oil Spot Prices

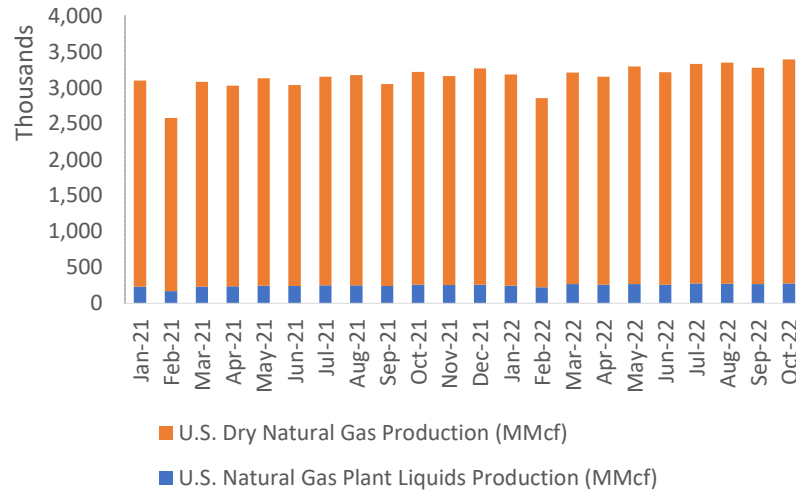
Source: Bloomberg; data as of 01/13/2023

	1/13/23	1/6/23	Net Change	% Change
WTI	79.86	73.77	6.09	8.3%
Brent	84.38	77.19	7.19	9.3%
LLS	82.76	75.57	7.19	9.5%
MEH	81.06	74.67	6.39	8.6%

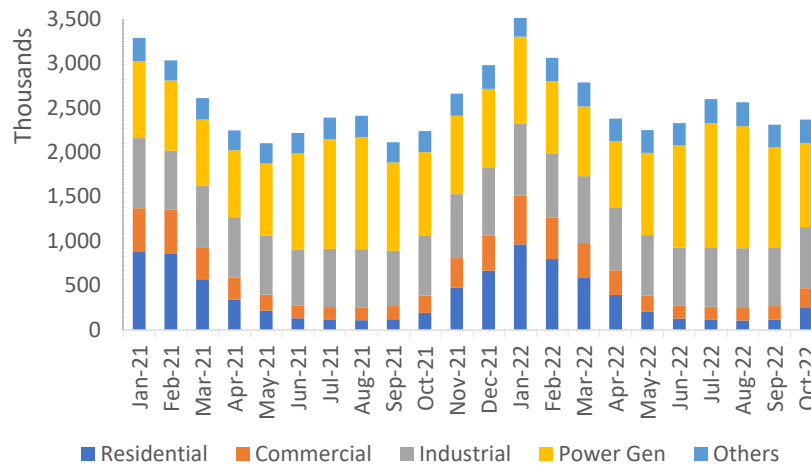
# Natural Gas Fundamentals

Source: U.S. Energy Information Administration

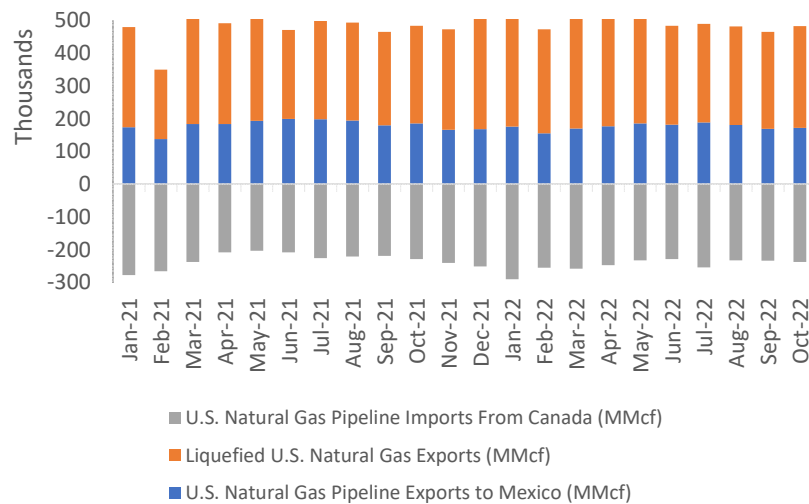
## Production (MMcf)



## Consumption (MMcf)



## Imports & Exports (MMcf)



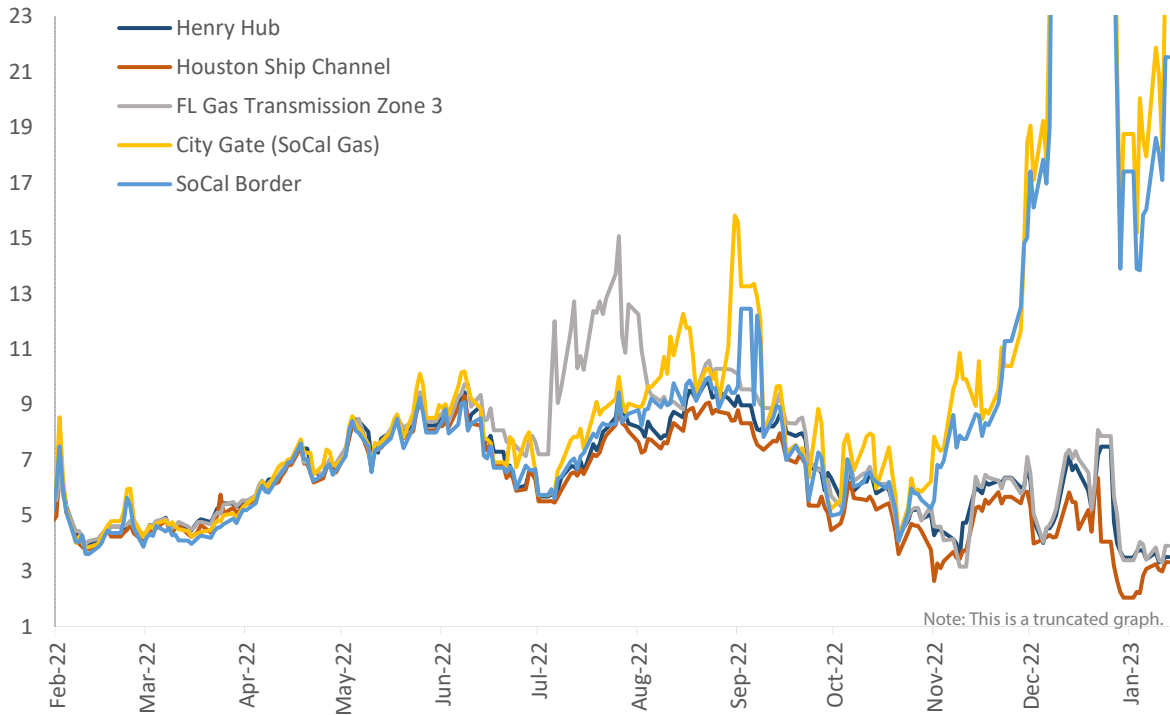
## Natural Gas Local Hub Spot Prices

Source: Bloomberg; data as of 01/13/2023

	1/12/23	1/6/23	Net Change	% Change
Henry Hub	3.480	3.430	0.050	1.5%
Houston Ship Channel	3.319	3.078	0.241	7.8%
FL Gas Transmission Zone 3	3.910	3.410	0.500	14.7%
City Gate (SoCal Gas)	25.000	18.650	6.350	34.0%
SoCal Border	21.527	16.032	5.495	34.3%

## Natural Gas Local Hub Prices Year-to-Date

Source: Bloomberg; data as of 01/13/2023



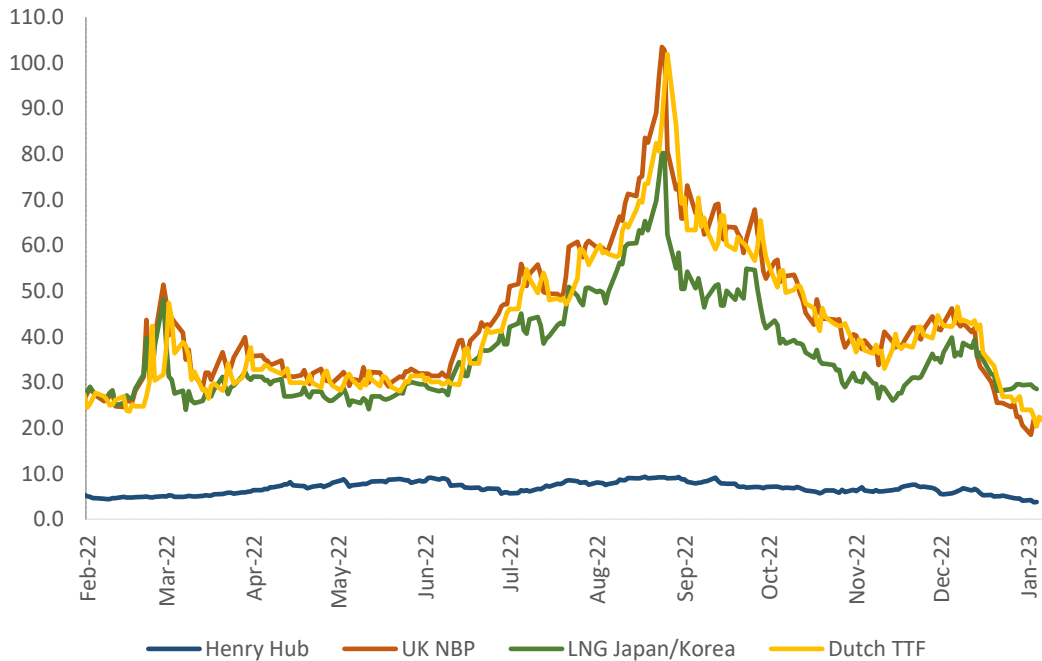
## Global Natural Gas Monthly Swaps

Source: Bloomberg; data as of 01/13/2023

	HH \$/MMBtu	5D % Change	NBP \$/MMBtu	5D % Change	JKM \$/MMBtu	5D % Change	TTF \$/MMBtu	5D %Change
FEB 23	3.42	-7.8%	19.87	-3.1%	26.81	-5.8%	20.62	-4.9%
MAR 23	3.20	-5.8%	19.95	-3.6%	20.17	-11.8%	20.74	-6.1%
APR 23	3.17	-4.5%	20.34	-6.7%	19.32	-13.8%	21.04	-6.7%
MAY 23	3.23	-3.7%	20.58	-7.3%	19.65	-12.5%	21.14	-7.0%
JUN 23	3.38	-4.0%	20.65	-7.3%	20.26	-10.4%	21.29	-7.3%
JUL 23	3.51	-3.8%	20.58	-7.0%	20.44	-11.1%	21.43	-7.4%
AUG 23	3.54	-3.8%	20.72	-7.2%	20.79	-10.9%	21.56	-7.6%
SEP 23	3.49	-4.0%	21.02	-7.1%	21.14	-10.6%	21.74	-7.5%
OCT 23	3.55	-3.9%	21.63	-6.3%	21.04	-9.4%	22.32	-6.2%
NOV 23	3.95	-2.7%	23.29	-5.4%	23.01	-9.6%	23.42	-5.8%
DEC 23	4.40	-2.0%	24.34	-5.8%	22.98	-9.4%	23.91	-5.7%
JAN 24	4.66	-2.0%	24.97	-4.8%	23.86	-9.6%	24.09	-5.6%

## International Gas Prices (MMBtu)

Source: Bloomberg; data as of 01/13/2023

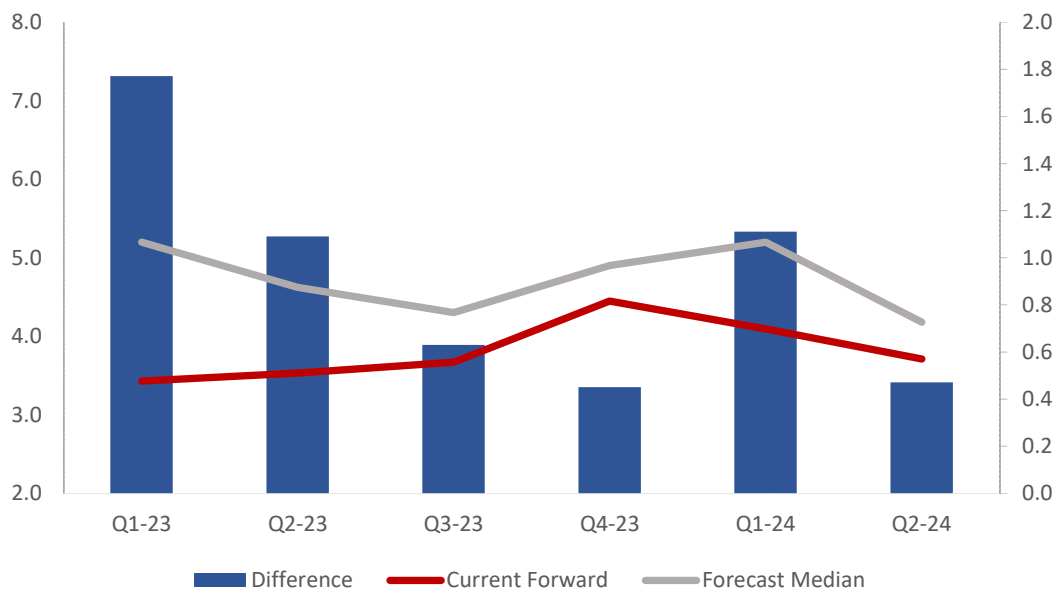




## NYMEX Henry Hub Analyst Consensus vs. Forward Curve

Source: Bloomberg; data as of 01/13/2023

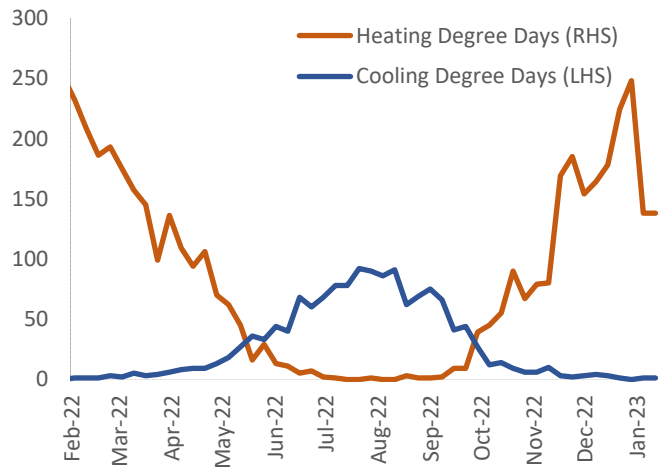
	Spot	Q1-23	Q2-23	Q3-23	Q4-23	Q1-24	Q2-24
Current Forward	3.42	3.43	3.53	3.67	4.45	4.09	3.71
Forecast Median		5.20	4.62	4.30	4.90	5.20	4.18
Mean		5.26	4.73	4.62	5.16	5.17	4.30
High		6.75	6.00	6.00	7.00	7.00	6.00
Low		3.20	3.41	3.50	4.00	3.20	3.10
Difference		1.77	1.09	0.63	0.45	1.11	0.47



## Weekly Average Cooling & Heating Degree Days

Source: National Oceanic and Atmospheric Administration

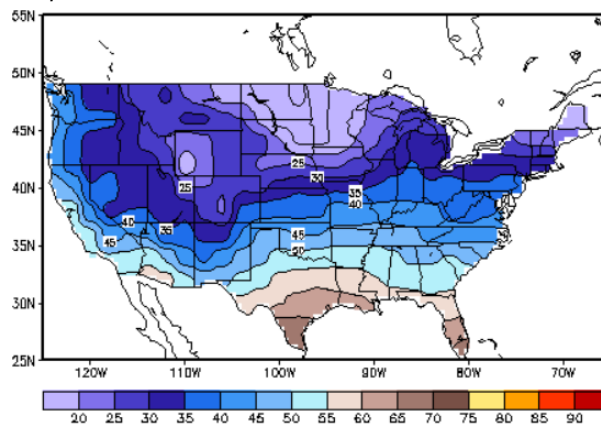
	1/5/2023	12/29/2022	Net Change	% Change
Cooling	1	0	1	N/A
Heating	138	248	-110	-44.4%



## Recent Temperature Average and Outlook

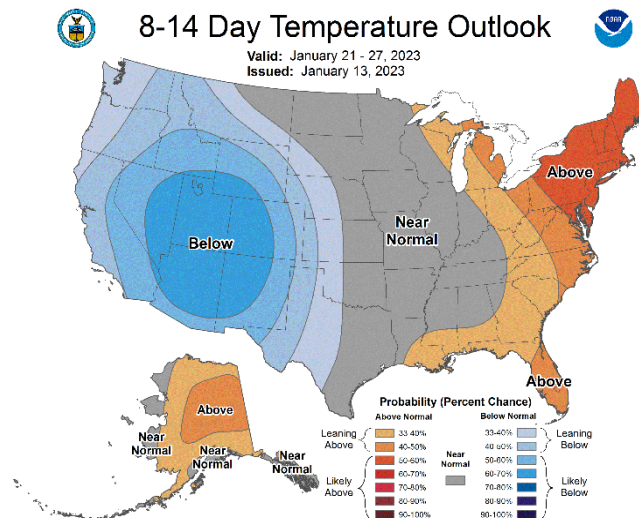
### 7-Day Mean Temperature (°F)

Source: National Oceanic and Atmospheric Administration



### 8-14 Day Temperature Outlook

Source: National Oceanic and Atmospheric Administration



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