



Oil & Gas Industry Day 2023

February 28, 2023



Oil and Gas Production/Water Disposal

Discount Rate

Cap Rate Variables

- Comparable Companies
- Capital Structure
- Debt Rate
- Equity Rate

Comparable Companies

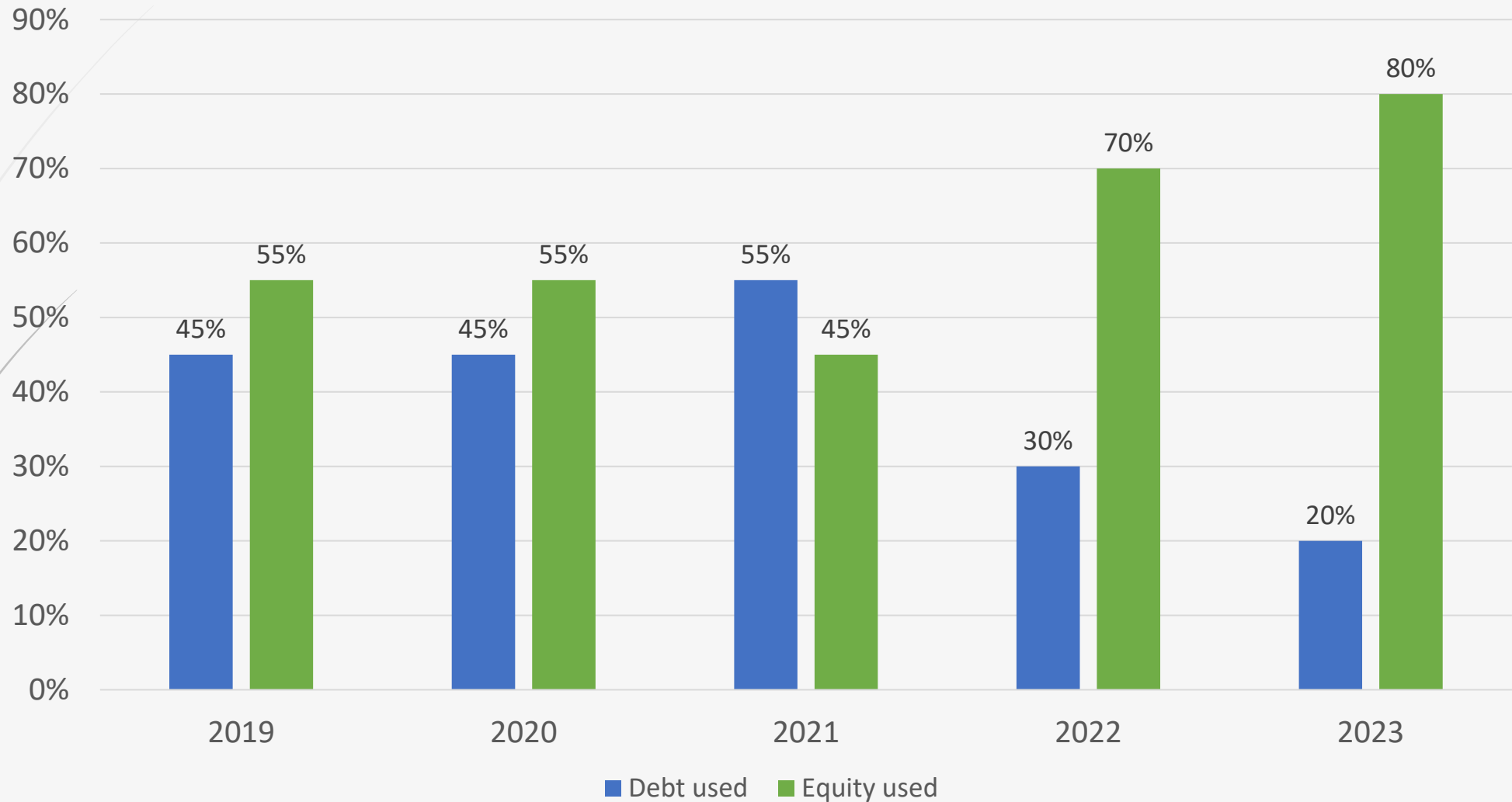
2022

- BLACK STONE MINERALS
- CALLON PETROLEUM
- CONTINENTAL RESOURCES
- DEVON ENERGY
- DIAMONDBACK ENERGY
- HIGHPOINT RESOURCES CORP
- PIONEER NATURAL RES.
- QEP RESOURCES
- SM ENERGY CO
- SOUTHWESTERN ENERGY

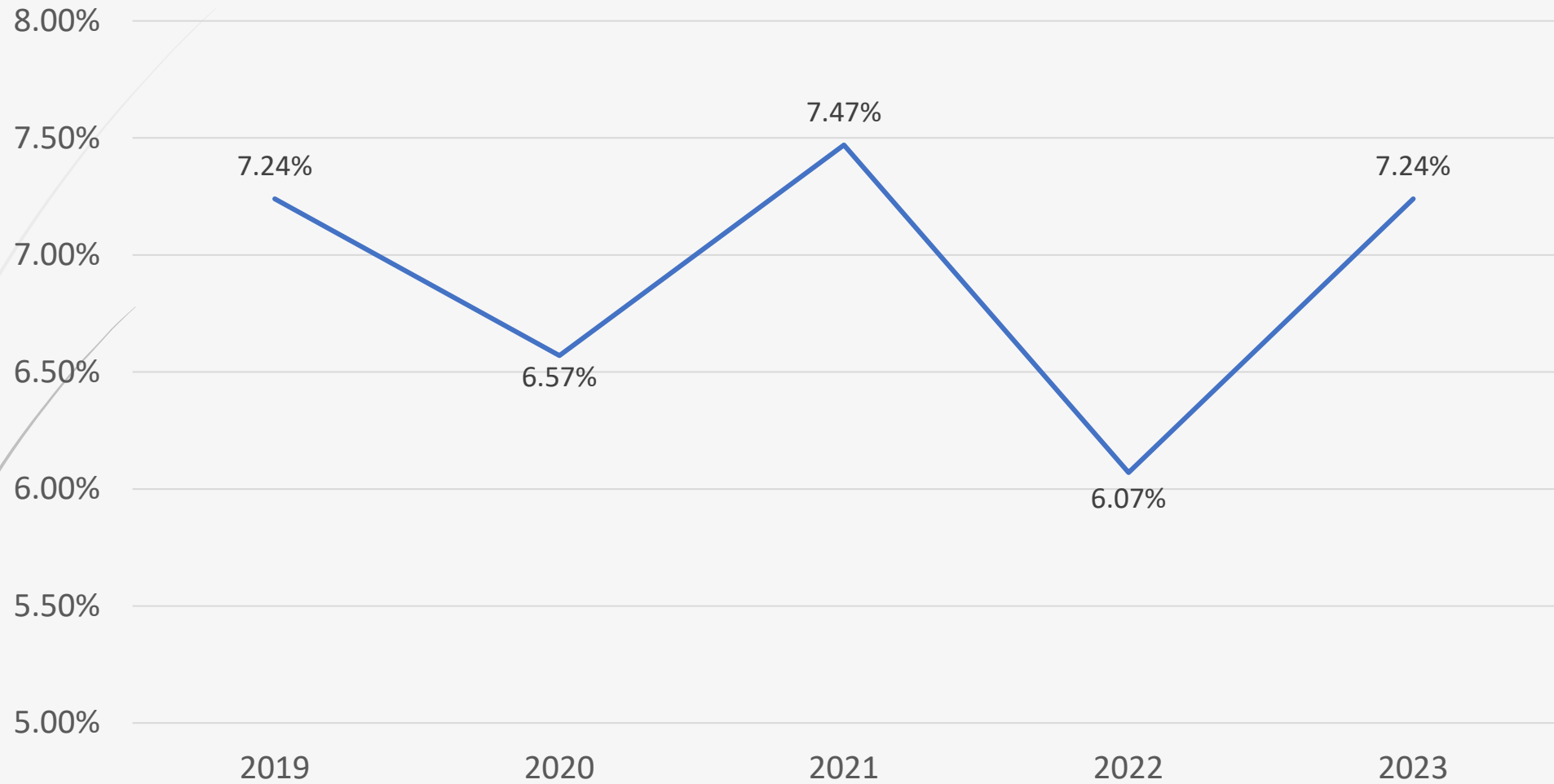
2023

- BLACK STONE MINERALS
- CALLON PETROLEUM
- CONTINENTAL RESOURCES
- DEVON ENERGY
- DIAMONDBACK ENERGY
- OCCIDENTAL PETROLEUM
- OVINTIV INC
- PDC ENERGY
- PIONEER NATURAL RES.
- SM ENERGY CO
- SOUTHWESTERN ENERGY

5 Year Capital Structure History

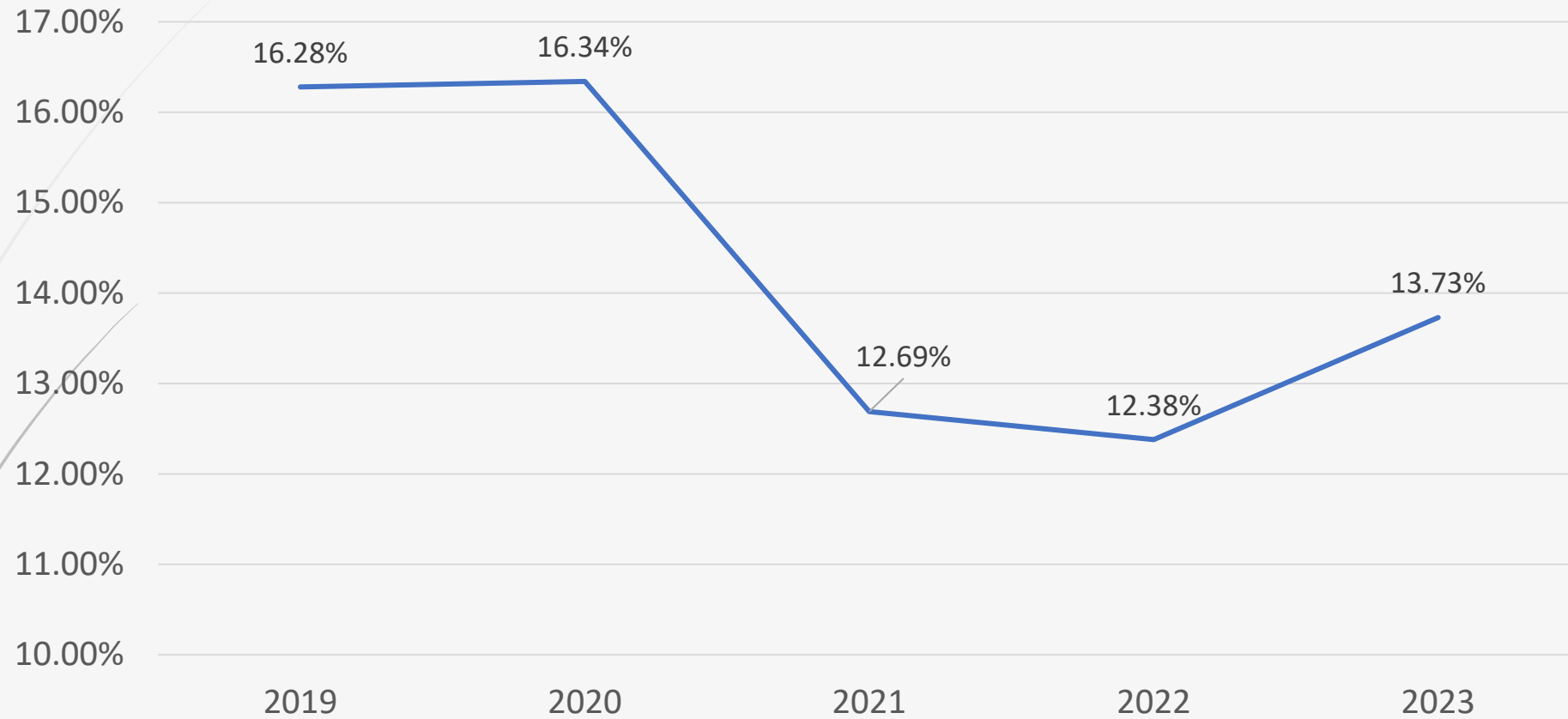


5 Year Debt Rate History



*Average of comparable company debt ratings

5 Year Equity Rate History



*Reconciled equity rate weighted for calculation method

Production/WD Discount Rate

Weighted Average Cost of Capital Discount Rate Calculation

	Rate	Capital Structure	Weighted Rate
Debt (Ba1)	7.24%	20%	1.45%
Equity	13.73%	80%	10.98%
WACC			12.43%



Oil and Gas Gathering

Discount Rate

Comparable Companies

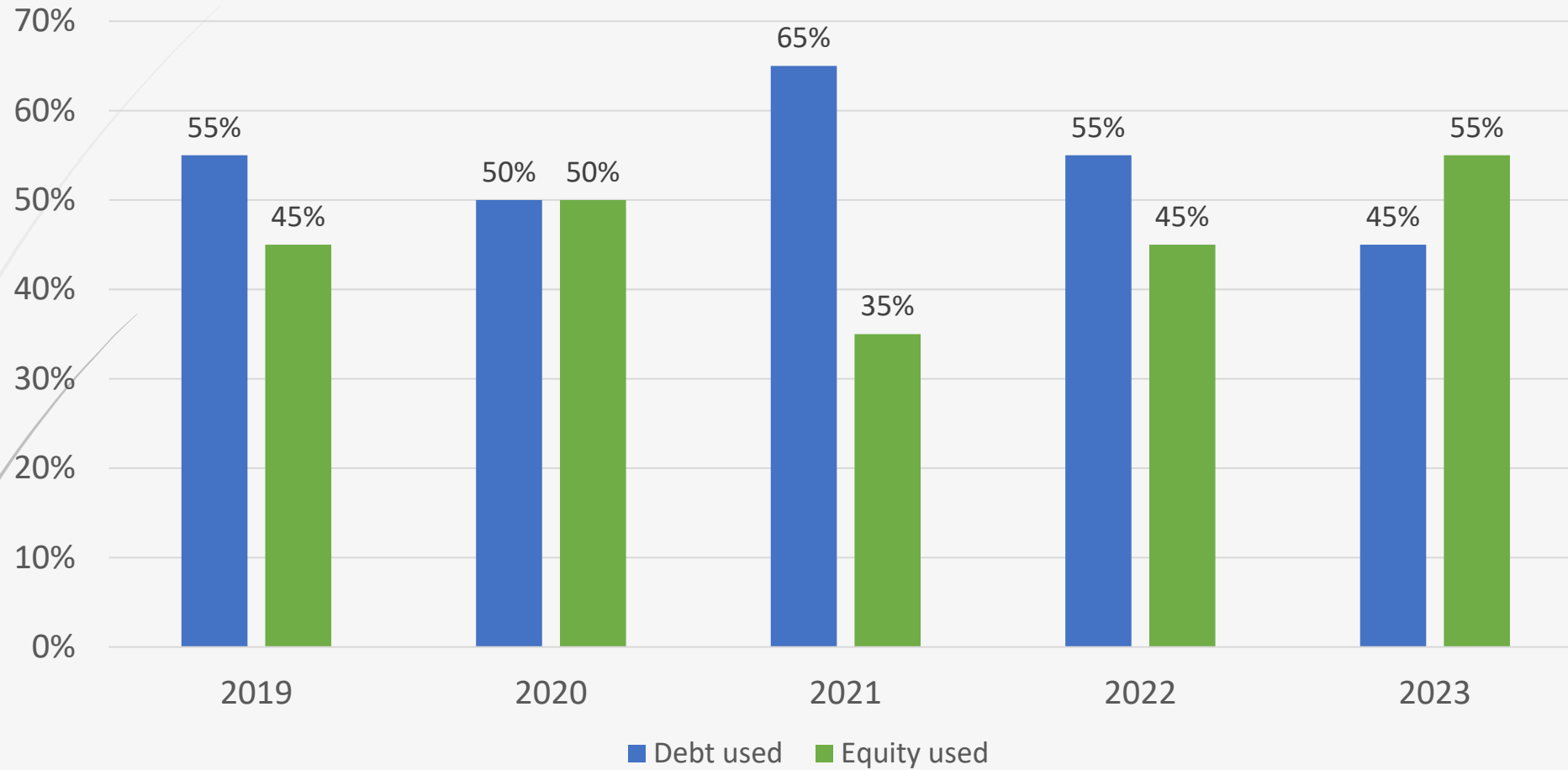
2022

- Crestwood Equity Partners Lp
- Energy Transfer Lp
- Holly Energy Ptrs.
- Oneok, Inc.
- Plains All Amer. Pipe
- Summit Midstream Partners Lp
- Western Midstream Part.
- Williams Cos.

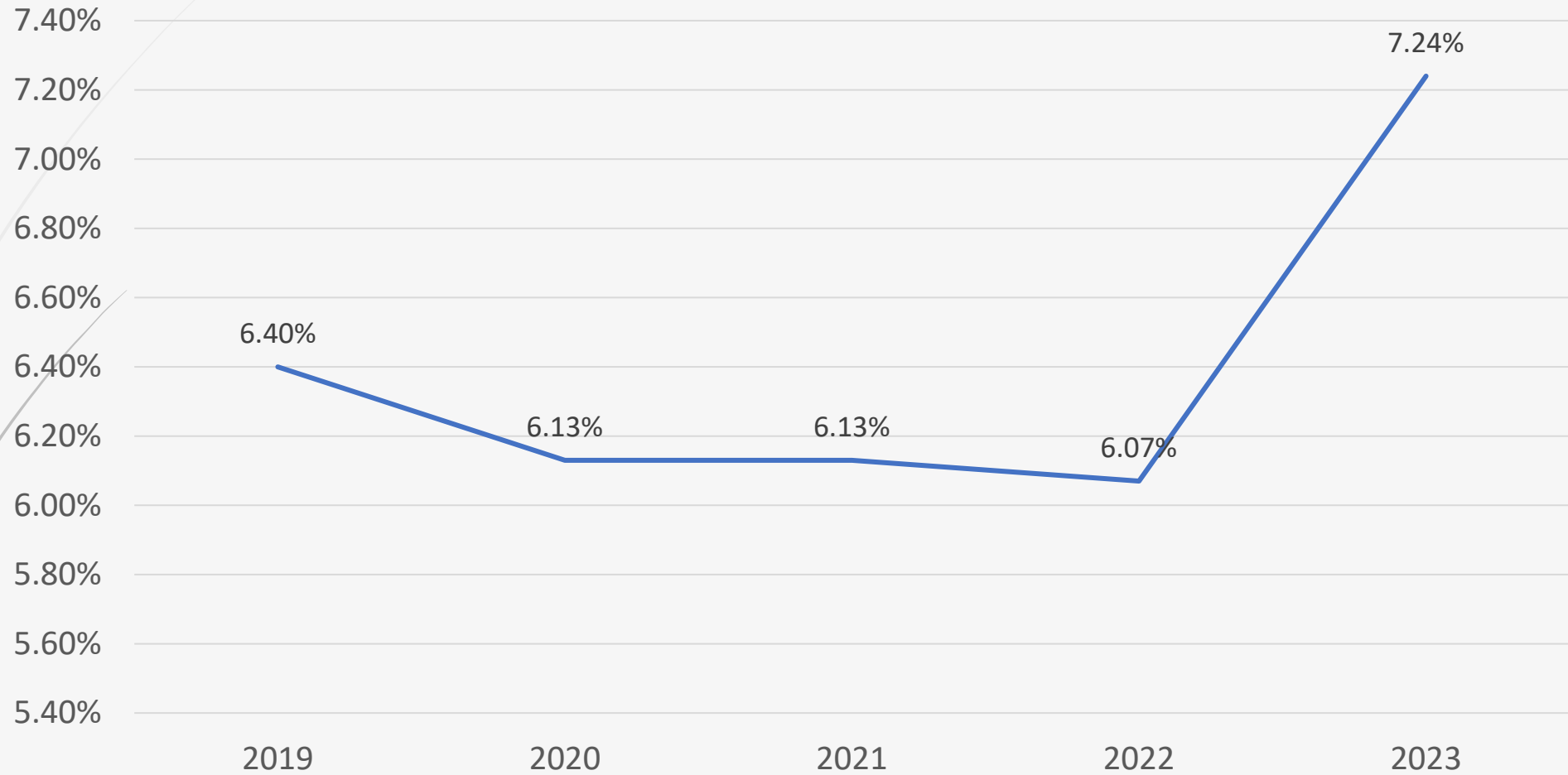
2023

- **Cheniere Energy**
- Crestwood Equity Partners Lp
- Energy Transfer Lp
- Holly Energy Ptrs.
- **Kinder Morgan**
- Oneok, Inc.
- Plains All Amer. Pipe
- Summit Midstream Partners Lp
- Western Midstream Part.
- Williams Cos.

5 Year Capital Structure History

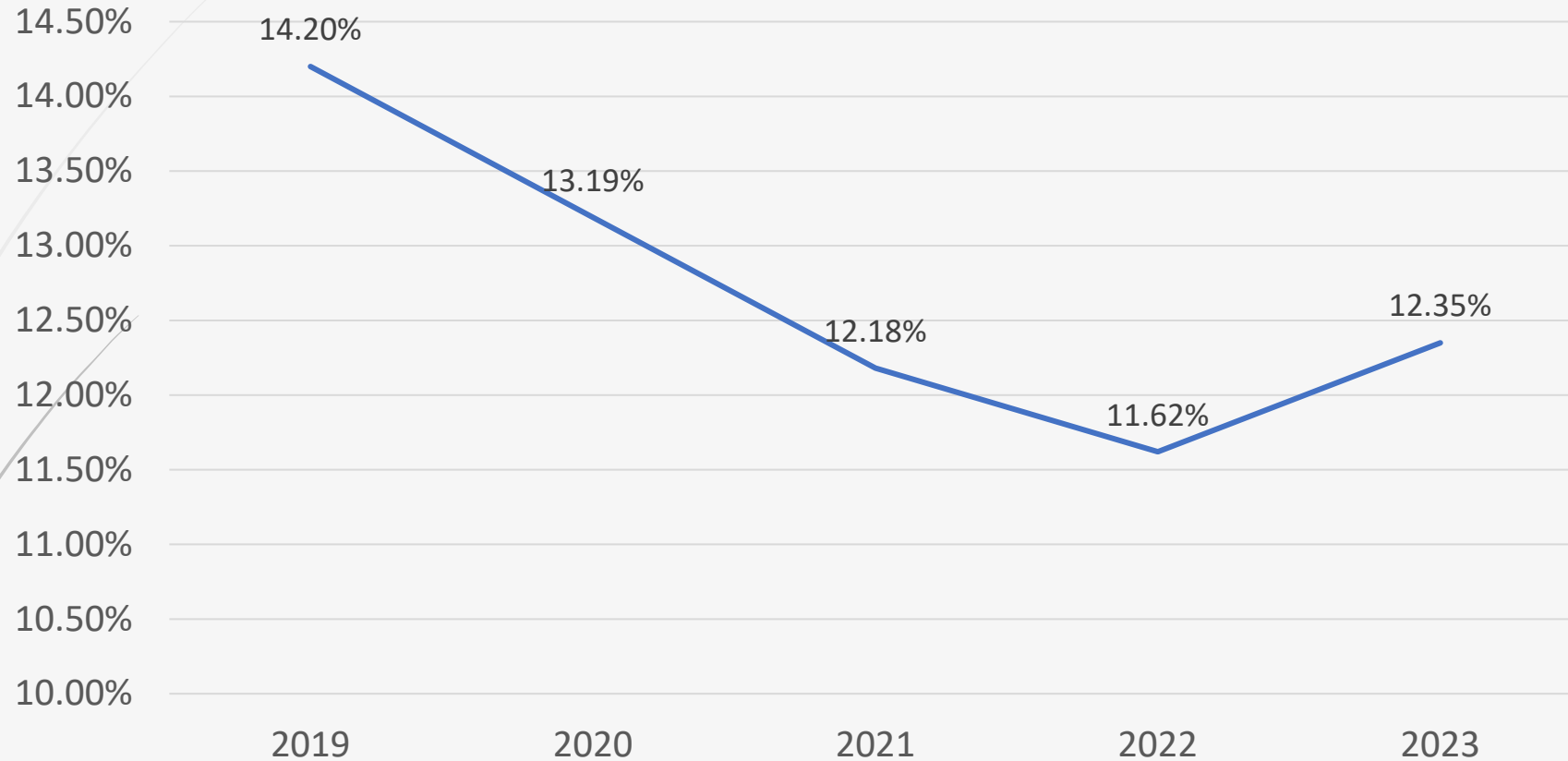


5 Year Debt Rate History



*Average of comparable company debt ratings

5 Year Equity Rate History



*Reconciled equity rate weighted for calculation method

Oil and Gas Gathering Discount Rate

Weighted Average Cost of Capital Discount Rate Calculation

	Rate	Capital Structure	Weighted Rate
Debt (Ba1)	7.24%	45%	3.26%
Equity	12.35%	55%	6.79%
WACC			10.05%

Natural Gas Price Forecast 2023

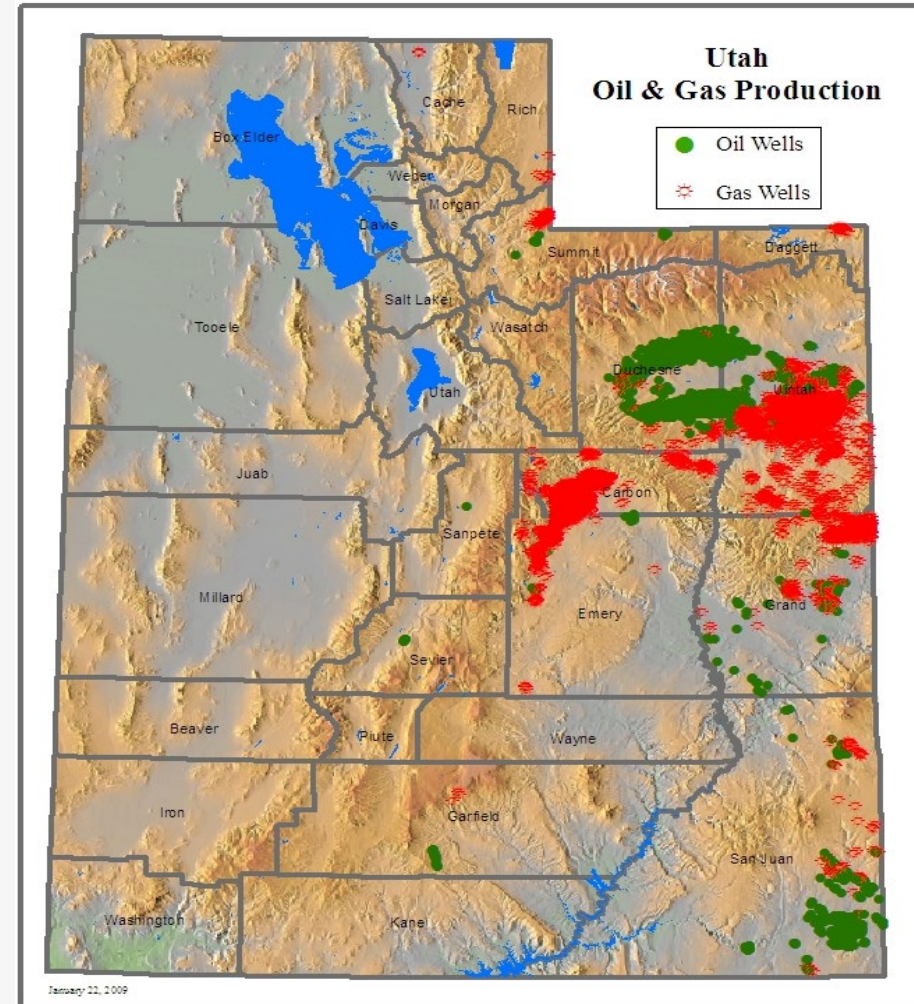
Natural Gas Price Forecast

- **Gas Product Price**
 - If sold under contract, the price shall be the stated price as of January 1, adjusted for escalation and de-escalation
 - If sold on the spot price market or to a direct end-user, the price shall be the average price received for the 12-month period immediately preceding January 1, adjusted for escalation and de-escalation

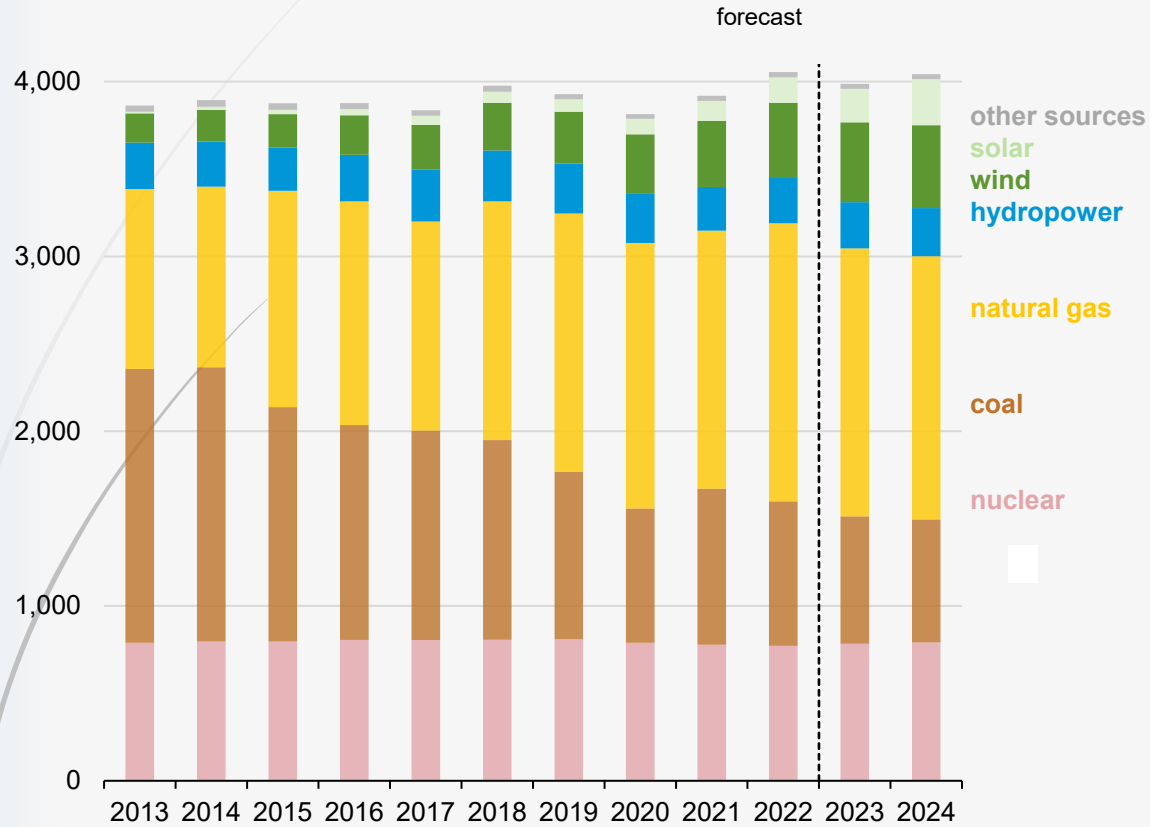
Utah Tax Code R884-24P-14 (1)

Natural Gas Pricing Factors

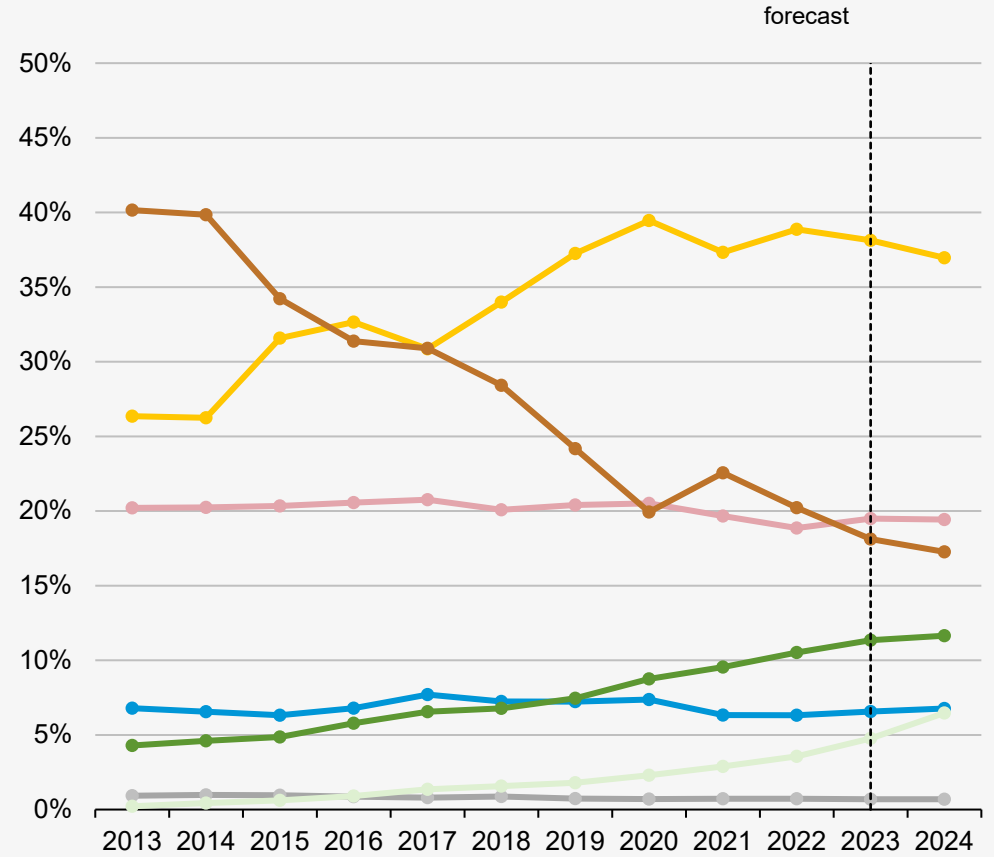
- **Data Analysis:**
 - Supply
 - Demand
 - Drilling
 - Production
- **Other Variables**
 - Weather
 - Economy



U.S. electricity generation by source, all sectors
billion kilowatthours



percentage share



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

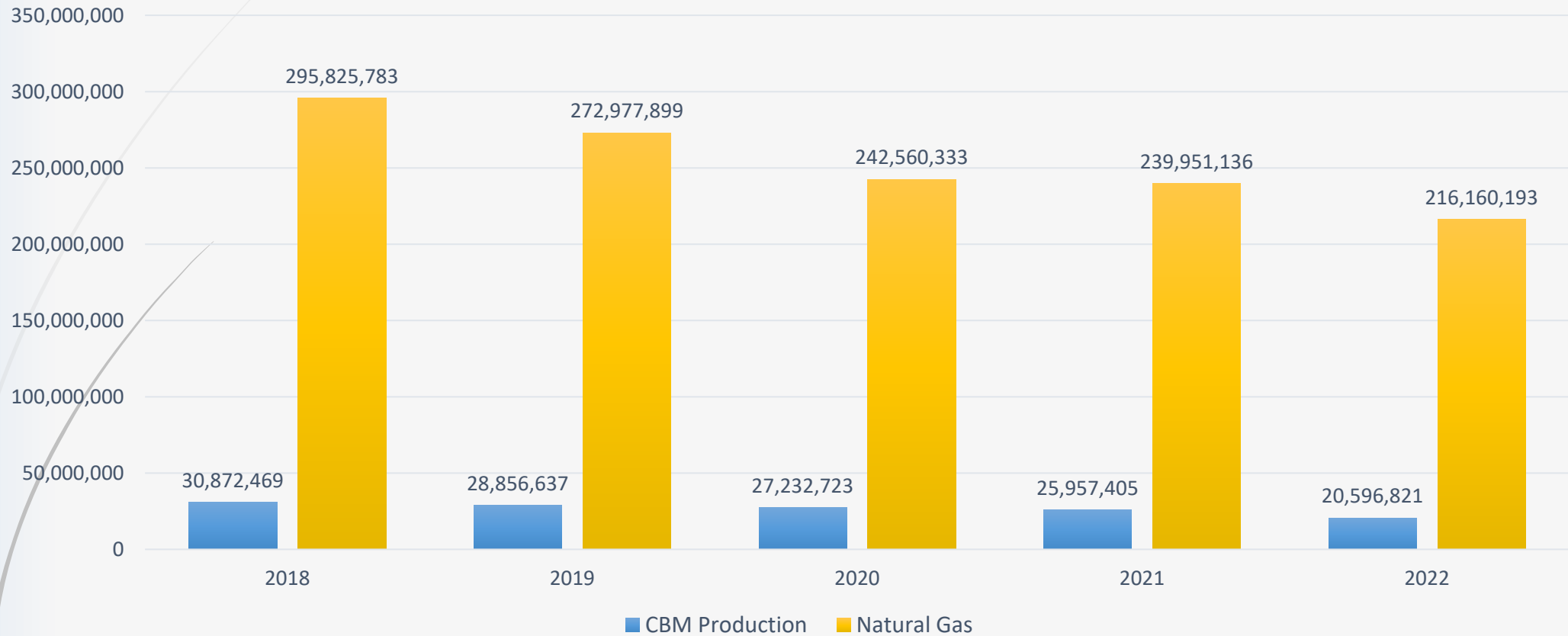
2022 Utah Current Gas Well Count

Utah Gas Wells Plugged by Year			
2019	2020	2021	2022
127	102	79	69

Drilling				
	2019	2020	2021	2022
Oil	118	51	56	161
Gas	18	1	13	48

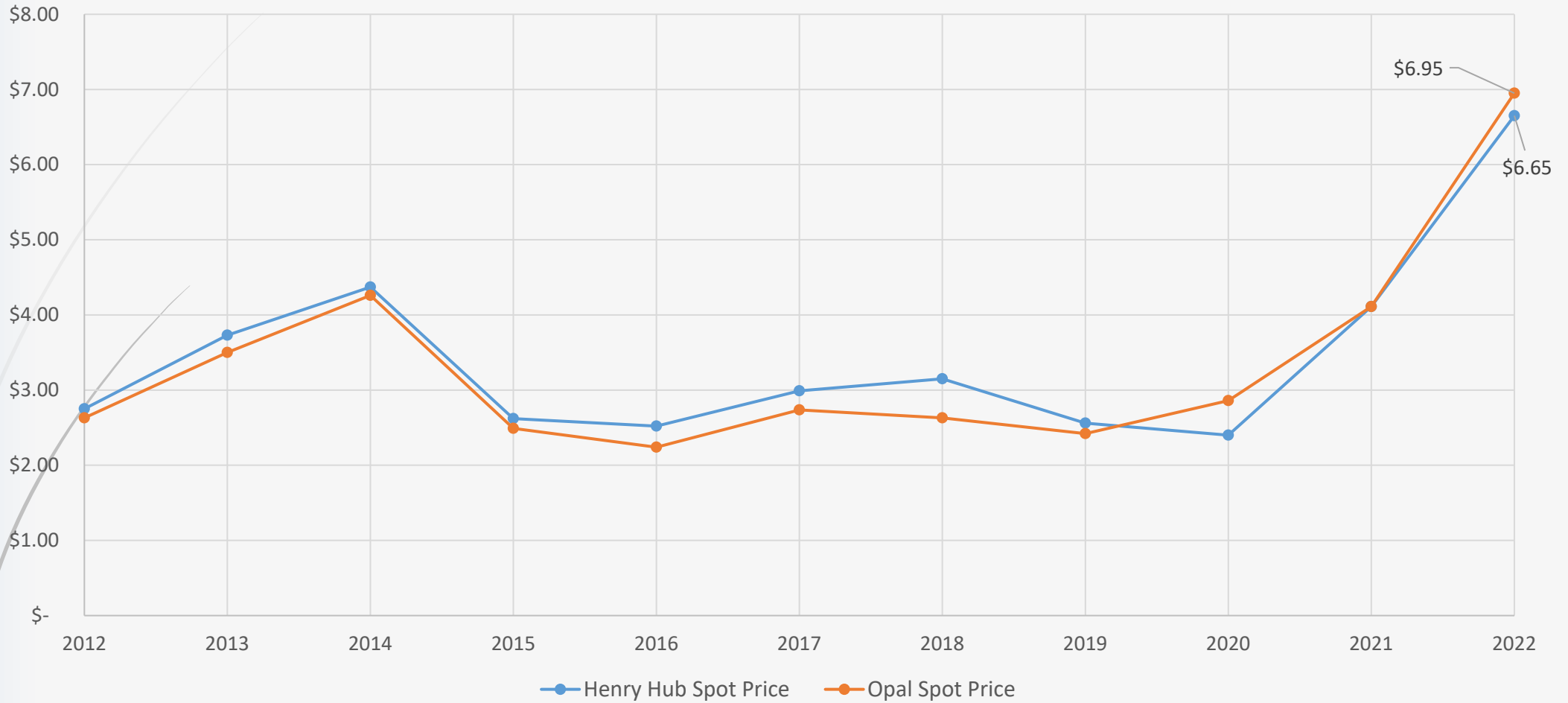
Current Utah Gas Well Count	
Producing Gas Wells	6497
Shut-in Gas Wells	1030
Total	7527

2018-2022 Utah Natural Gas and CBM Production

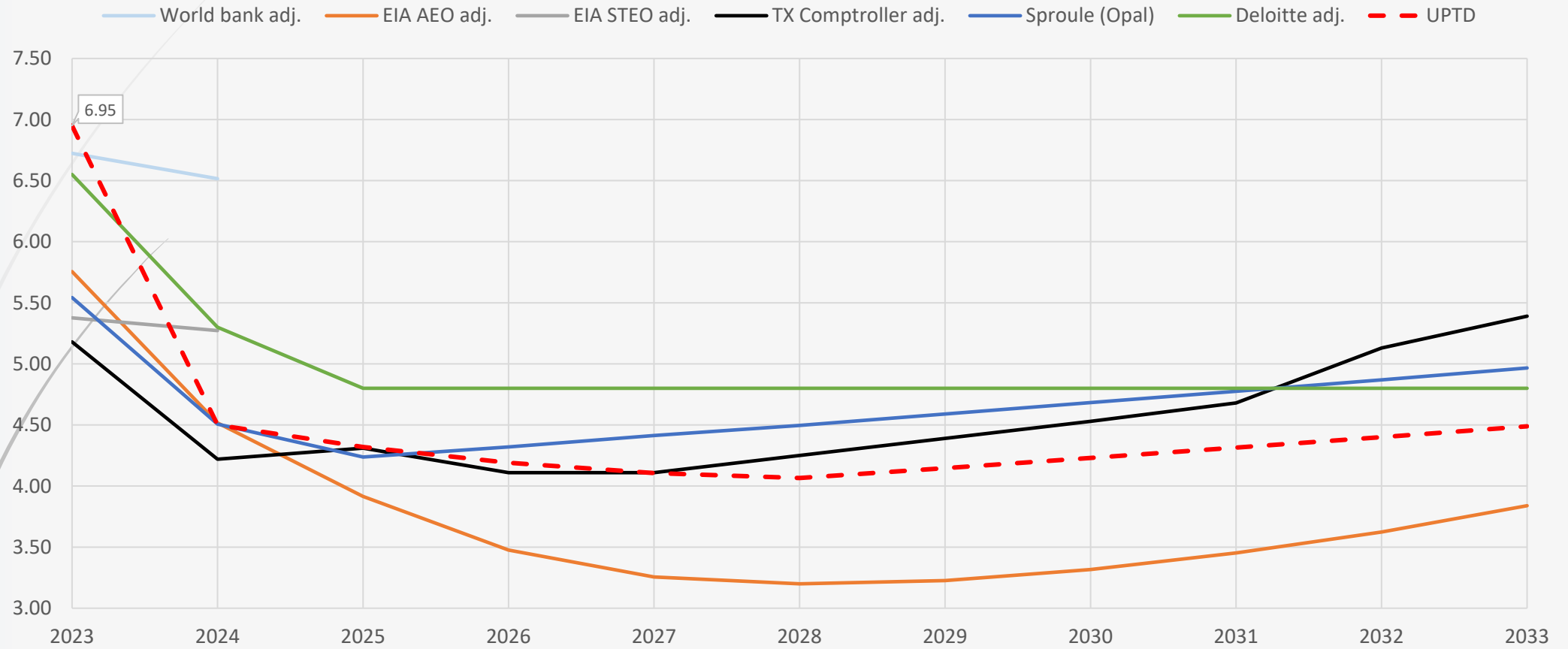


Source- DOGM (In thousands, 2022 is annualized)

HENRY HUB AND OPAL SPOT PRICE



2023 GAS PRICE FORECAST ADJUSTED TO OPAL, WYOMING



2023 Gas Price Forecast

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Start Price	6.95									
Forecast		4.50	4.32	4.19	4.11	4.07	4.15	4.23	4.31	4.40
% Change		-35%	-4%	-3%	-2%	-1%	2%	2%	2%	2%

Oil Price Forecast 2023

Disclaimer

- Forecasted numbers are opinions of value and are subject to significant economic factors unknown or not reported as of January 1, 2023

“The oil market is especially sensitive even to a hint of expansion or contraction in supply.”

James Surowiecki

2022 Highlights

Equilibrium

- Increase in supply and decrease in demand turned the market to surplus by end of year
- Continued zero-Covid policy in China
- US releases from SPR

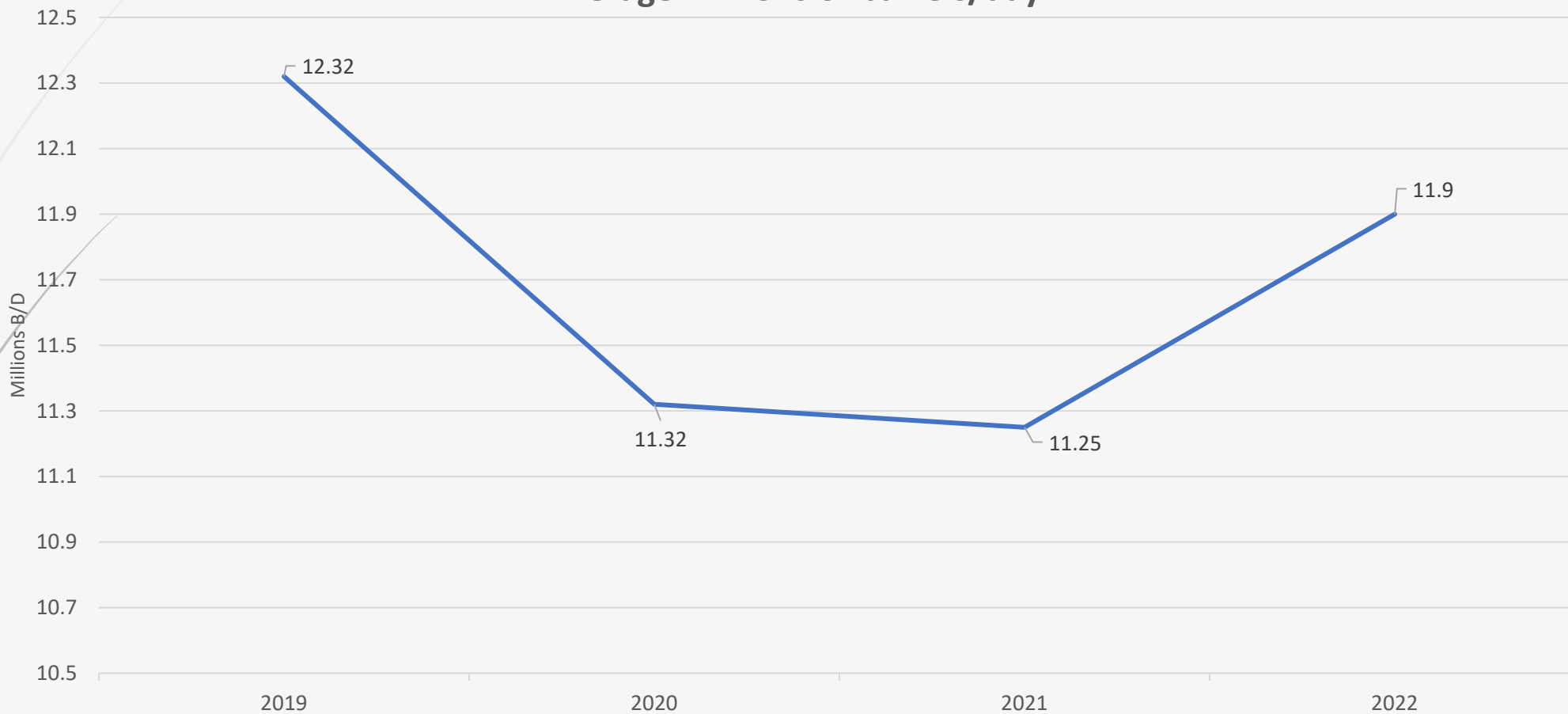
WTI-Brent

- Declined over 30% from June 2022-End of Year

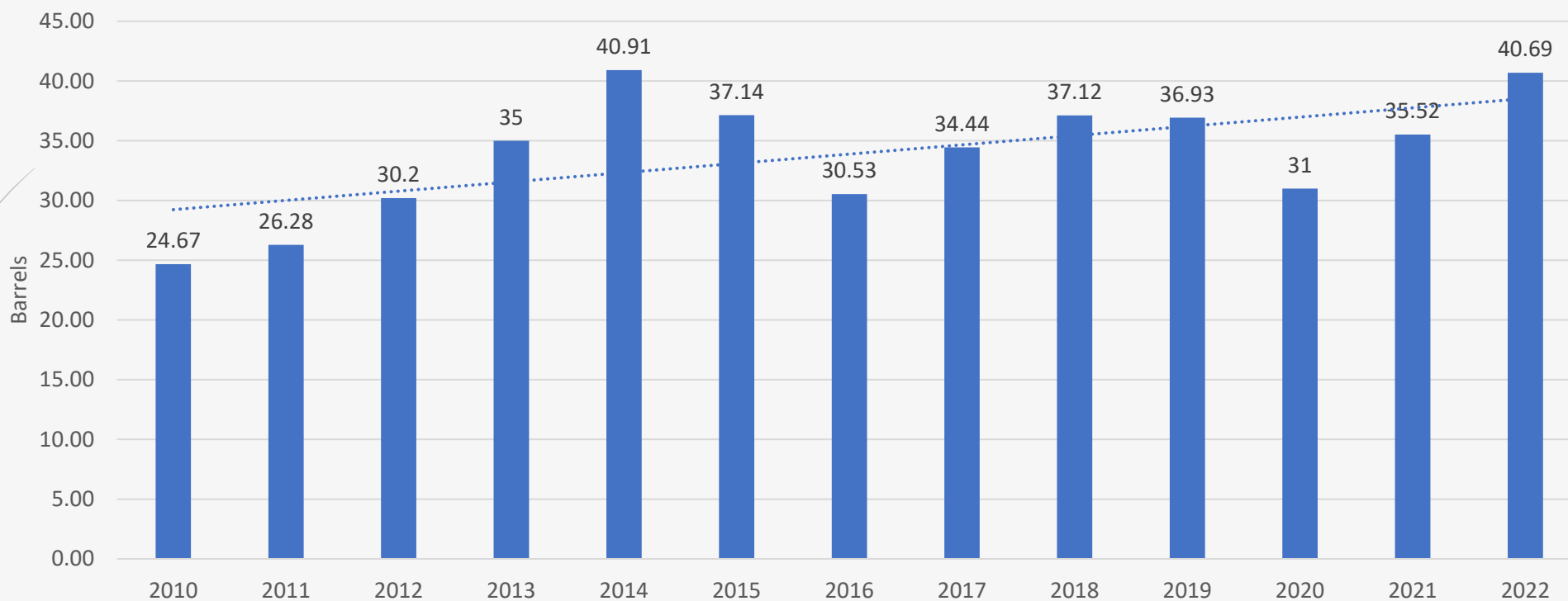
US oil production

- US net exports of crude and petroleum products reached all time high in 2022

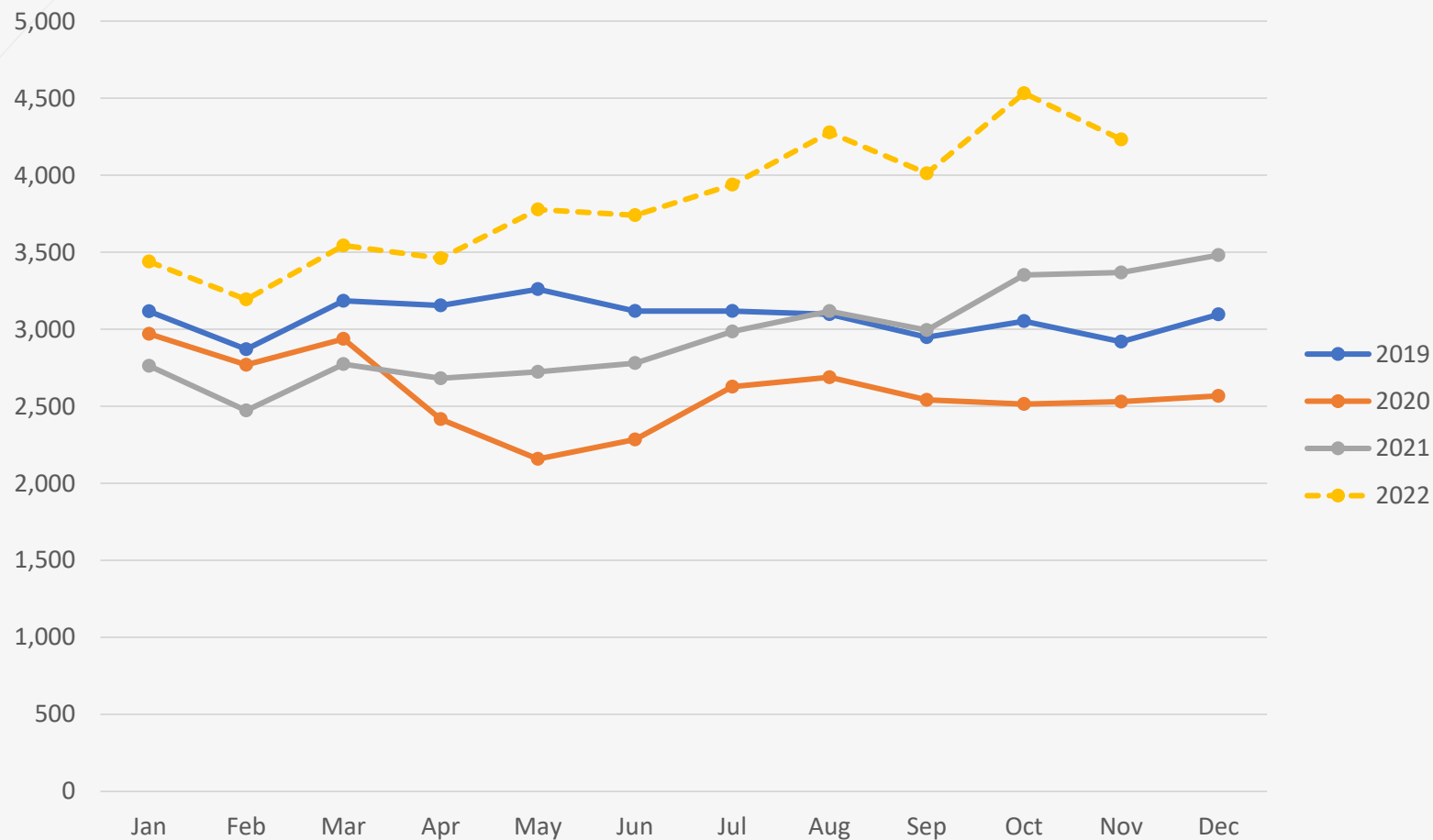
US Crude Oil Production Average Millions of barrels/day



Utah - Oil Production
By Year (Millions)



Utah - Oil Production
By Month in Thousands of barrels



*2023 information complete through November

2023 Expectations

Macro

- Year of extreme uncertainty and volatility
- Wildcards: Russia, China, recession risk
- Russian sanctions likely to tighten global supply
- OPEC contracts after 2022 expansion

Demand

- China ends zero-Covid-demand to grow but when?
- US to replenish SPR

U. S. Production

- EIA forecasts 5% increase in production 2023



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R884-24P-10

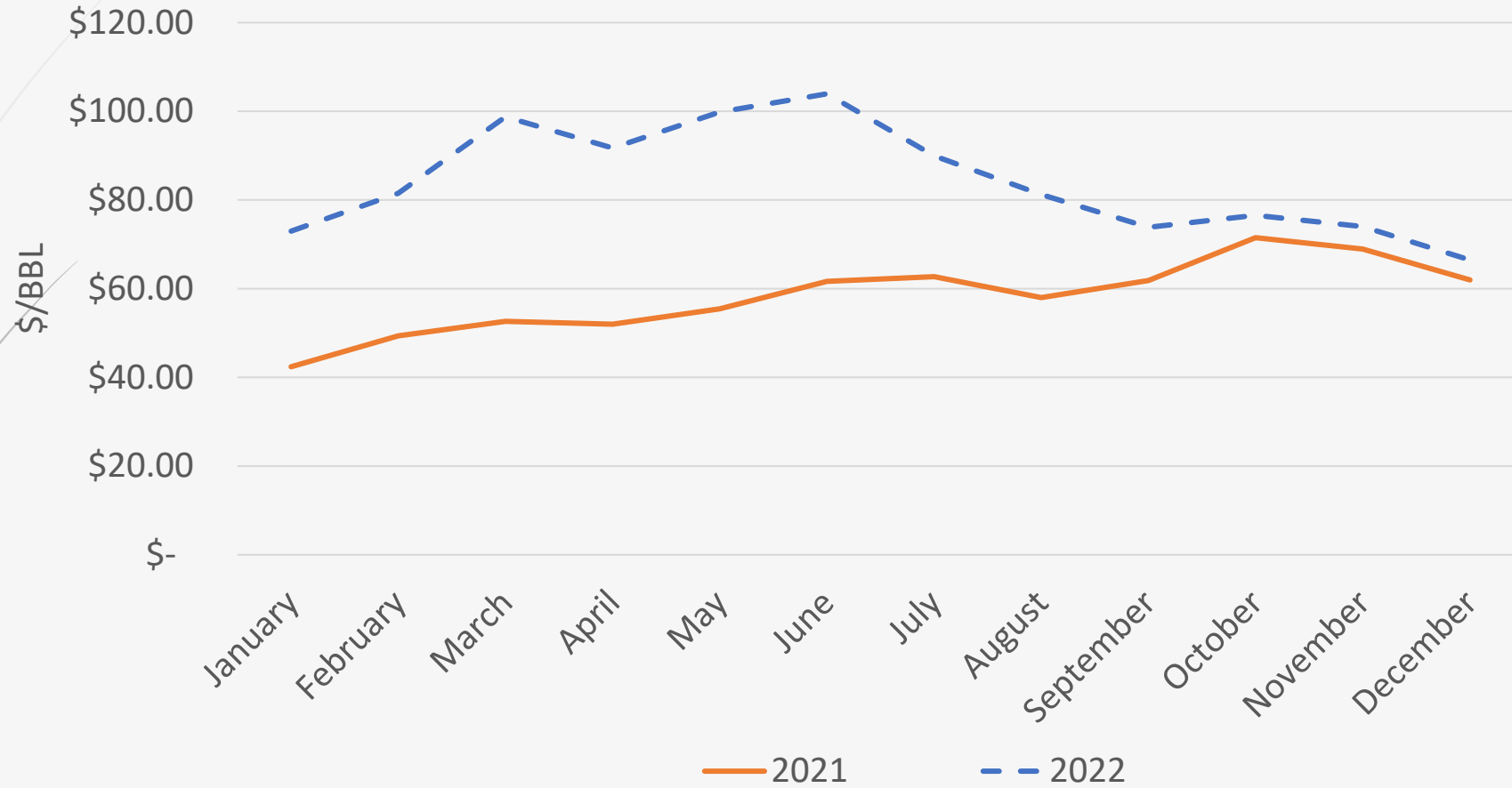
“Product Price”

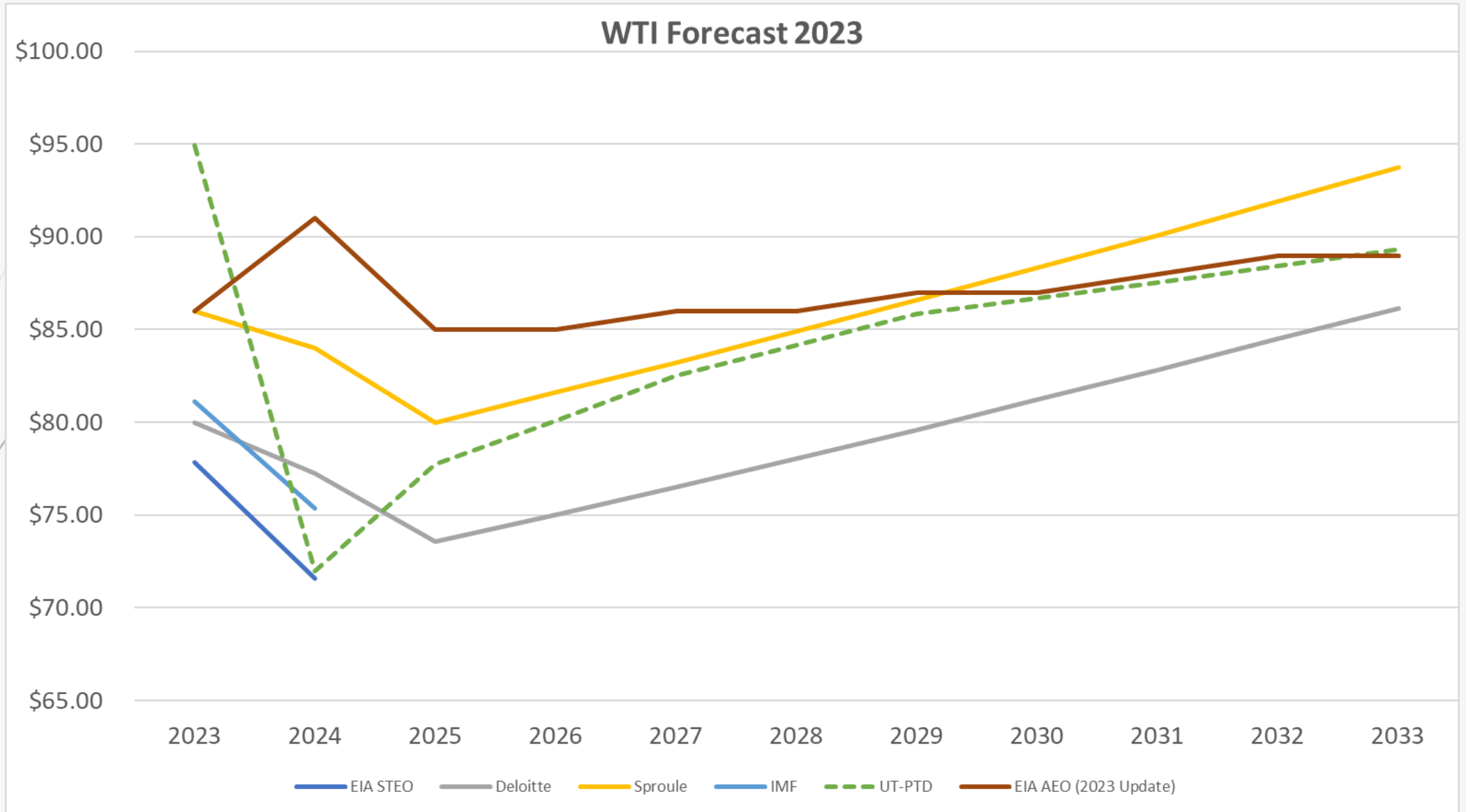
- Starting price is the weighted average posted price of the previous year

Western Colorado

	Posting	2021	2022	%
Month	Days	Price	Price	Change
January	31	\$ 42.39	\$ 72.97	72%
February	28	\$ 49.35	\$ 81.51	65%
March	31	\$ 52.65	\$ 98.73	88%
April	30	\$ 51.99	\$ 91.71	76%
May	31	\$ 55.45	\$ 99.83	80%
June	30	\$ 61.64	\$ 103.93	69%
July	31	\$ 62.72	\$ 89.93	43%
August	31	\$ 58.00	\$ 81.21	40%
September	30	\$ 61.83	\$ 73.85	19%
October	31	\$ 71.51	\$ 76.53	7%
November	30	\$ 68.94	\$ 73.99	7%
December	31	\$ 61.98	\$ 66.45	7%
Year End Weighted Average Price \$/BBL		\$ 58.20	\$ 84.22	48%

Weighted Crude Oil Posted Prices Western Colorado





Forecast for all Oil Types in Utah

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Western Colorado	\$ 84.22	\$ 64.01	\$ 69.13	\$ 71.20	\$ 73.34	\$ 74.80	\$ 76.30	\$ 77.06	\$ 77.83	\$ 78.61
Black Wax	\$ 82.44	\$ 62.65	\$ 67.67	\$ 69.70	\$ 71.79	\$ 73.22	\$ 74.69	\$ 75.43	\$ 76.19	\$ 76.95
Yellow Wax	\$ 82.44	\$ 62.65	\$ 67.67	\$ 69.70	\$ 71.79	\$ 73.22	\$ 74.69	\$ 75.43	\$ 76.19	\$ 76.95
Paradox	\$ 83.39	\$ 63.38	\$ 68.45	\$ 70.50	\$ 72.61	\$ 74.07	\$ 75.55	\$ 76.30	\$ 77.07	\$ 77.84
Wyoming Sweet	\$ 87.83	\$ 66.75	\$ 72.09	\$ 74.25	\$ 76.48	\$ 78.01	\$ 79.57	\$ 80.37	\$ 81.17	\$ 81.98
% Increase/Decrease		-24%	8%	3%	3%	3%	2%	2%	1%	1%

Contacts

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- Joseph Thomas – Oil & Gas Analyst – josephthomas@Utah.gov 385-285-5020
- Stephen Sorweid – Oil & Gas Analyst – ssorweid@utah.gov 385-499-0546

Sources for Natural Gas & Oil Price Forecasting

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- U.S. EIA – United States Energy Information Administration
- International Monetary Fund
- Bank of America – Merrill Lynch
- NGSA- Natural Gas Supply Association
- NYMEX – (CME Group)
- Sproule Associates
- AJM Deloitte
- Texas Comptroller
- World Bank