



Longreach Energy Holdings LLC

FIRM INFORMATION

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1.0 Market and Portfolio Commentary

1.1 Macro Industry Commentary

US Henry Hub gas prices rose a little in April, the prompt increasing from \$2.22/mmbtu at close on 31 March to \$2.41/mmbtu at close on 28 April. Calendar 2023 was flat, ending the month where it started at \$2.827/mmbtu.

Oil prices increased modestly. The prompt opened April at \$75.67/bbl and closed the month at \$76.78/bbl. Calendar 2023 also rose, starting the month at \$74.51/bbl and closed at \$75.29/bbl.

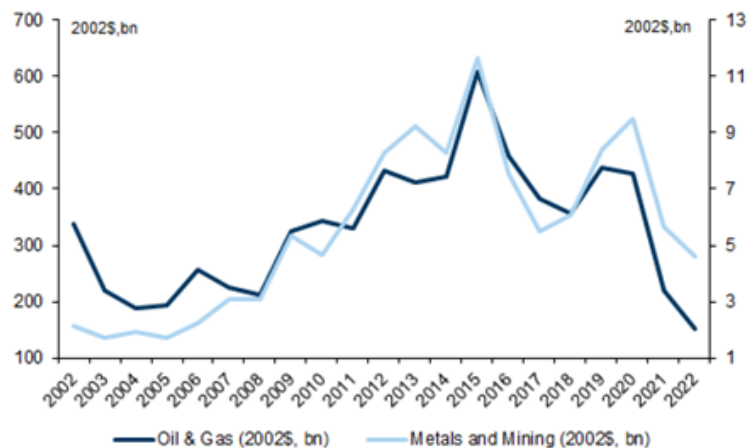
Despite recent higher prices, capital expenditure across traditional energy and mining sectors has, in real terms, fallen markedly in the last few years (Figure 1).

Figure 1: Oil & Gas and Metals and Mining real Capex in 2022 USD (Source: Baker Hughes, GS)



Capex across commodities continued to fall in real terms despite higher prices

Oil & Gas and Metals and Mining (rhs) real capex in 2002 dollars



Source: Baker Hughes, Goldman Sachs Global Investment Research

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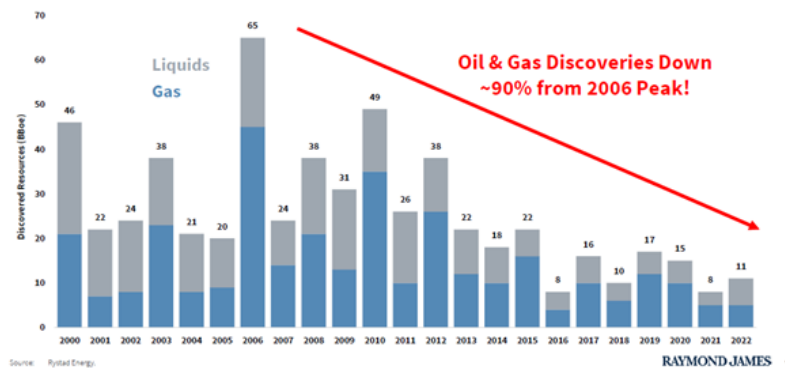
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This fall in investment will inevitably reduce available supply over coming years. For oil and gas, the reduction in global exploration spending has contributed to a fall in discoveries. In 2022 oil and gas discoveries were down ~90% from their peak in 2006 (Figure 2).

Figure 2: Oil and Gas Discovered Resources (Source: Rystad, via RaymondJames)

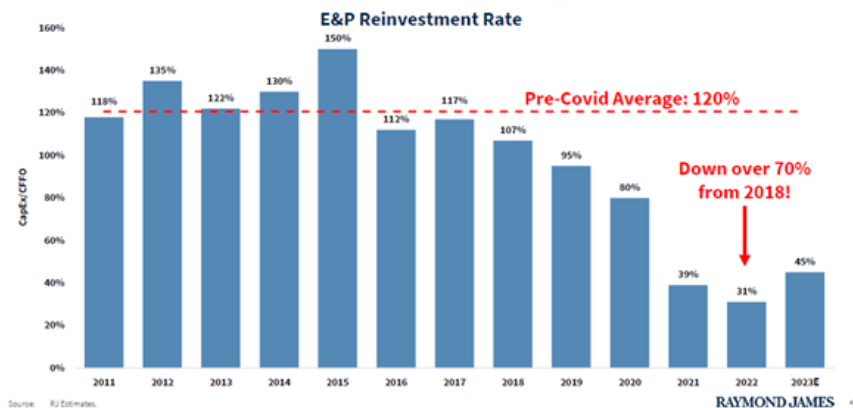
Global Exploration Down Sharply



The US domestic E&P industry has reduced reinvestment (capital spending as percentage of free cash-flow) from an average of 120% pre-Covid to an average of 38% since 2021 (Figure 3).

Figure 3: US E&P Reinvestment Rate (Source: RaymondJames)

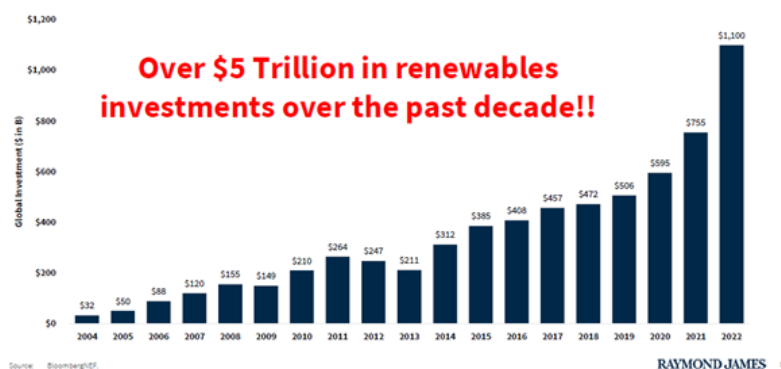
U.S. E&P Reinvestment Way Down!



While traditional energy investment is down, energy transition spending has soared (Figure 4).

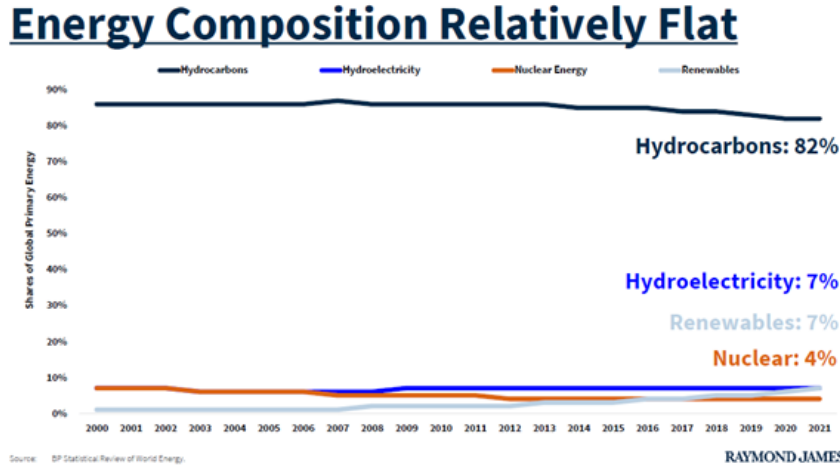
Figure 4: Global Renewables Investment (Source: Bloomberg, via RaymondJames)

Energy Transition Spending Up HUGE



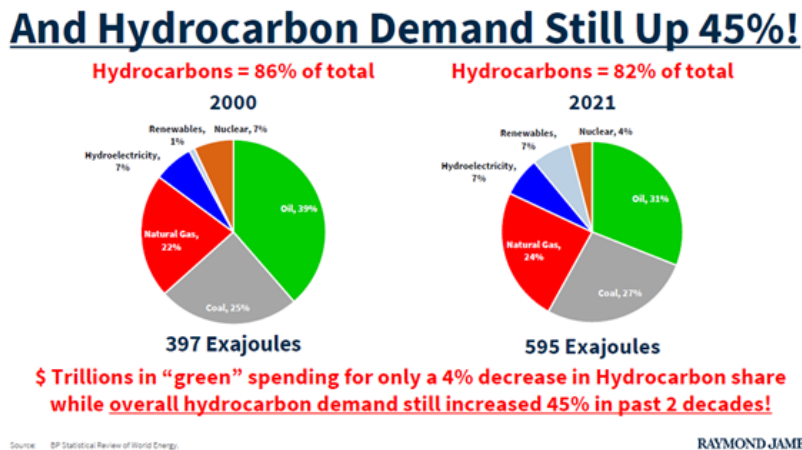
Despite this investment, energy composition has remained relatively flat over the last 10 years (Figure 5).

Figure 5: Global Energy Supply by Source (Source: BP, via RaymondJames)



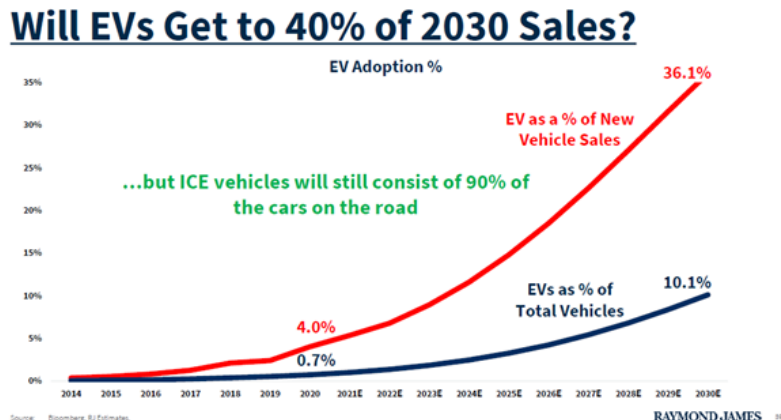
In volume terms hydrocarbon demand increased by 45% between 2000 and 2021 (Figure 6).

Figure 6: Global Energy Supply by Source (Source: BP, via RaymondJames)



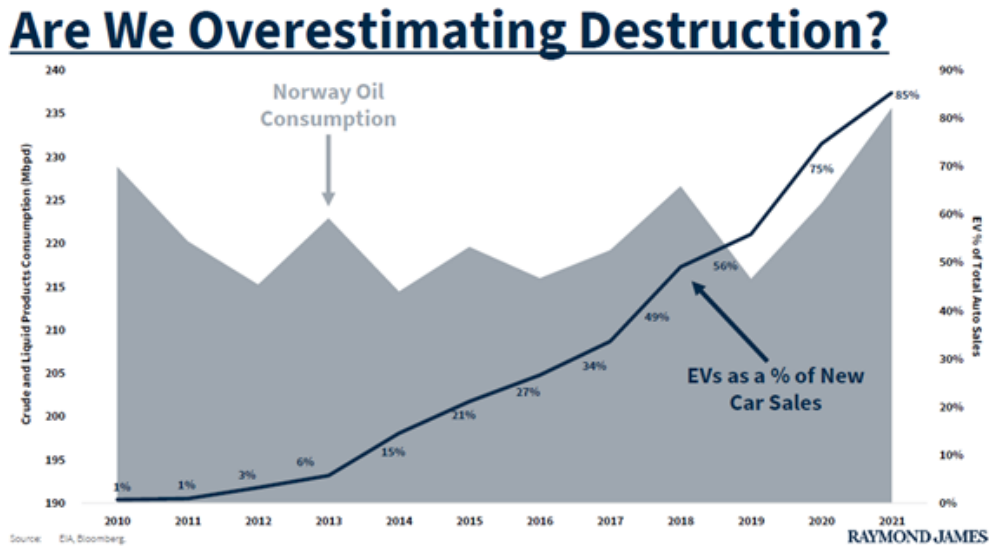
The global growth in electric vehicle (EV) sales is strong (Figure 7) though even if EVs reach 40% of new vehicle sales by 2030, internal combustion engines will still power 90% of the cars on the road.

Figure 7: Global Energy Supply by Source (Source: BP, via RaymondJames)




It is widely expected that the growth in EV numbers will destroy oil demand and send demand for oil into steep decline. The experience in Norway suggests that oil demand may endure at higher levels than are anticipated (Figure 8). In Norway in 2021 EV's were 85% of new car sales and yet Norwegian oil consumption has remained broadly unchanged, indeed if anything increased, since 2010.

Figure 8: Norwegian EV Sales and Oil Consumption (Source: EIA, Bloomberg, via RaymondJames)



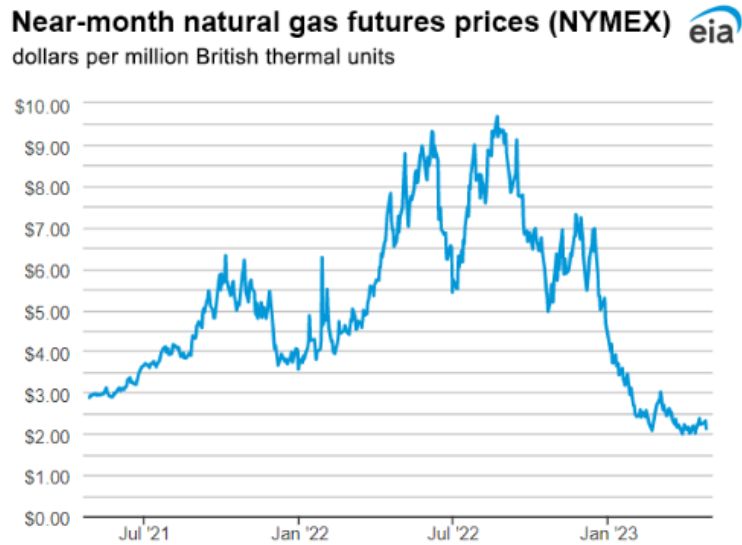
The latest Baker Hughes rig count data follows. In April US total land rigs rose by 6 from 727 to 733. Oil rigs rose by 3 from 588 to 591 while gas rigs (again surprisingly) rose by 4 from 157 to 161. Falls in miscellaneous and inland waters rigs made up the difference.

Baker Hughes rig count		Baker Hughes 				
Rotary Rig Count						
4/28/23						
Location	Week	+/-	Week Ago	+/-	Year Ago	
Land	733	1	732	49	684	
Inland Waters	2	1	1	2	0	
Offshore	20	0	20	6	14	
United States Total	755	2	753	57	698	
Gulf Of Mexico	19	1	18	6	13	
Canada	93	-12	105	-2	95	
North America	848	-10	858	55	793	
U.S. Breakout Information		This Week	+/-	Last Week	+/-	Year Ago
Oil	591	0	591	39	552	
Gas	161	2	159	17	144	
Miscellaneous	3	0	3	1	2	
Directional	47	-1	48	17	30	
Horizontal	685	-2	687	42	643	
Vertical	23	5	18	-2	25	

Gas Market

The recent prompt Henry Hub gas futures floor at ~\$2/mmbtu held through April (Figure 9).

Figure 9: Near Month Henry Hub Futures (Source: EIA)

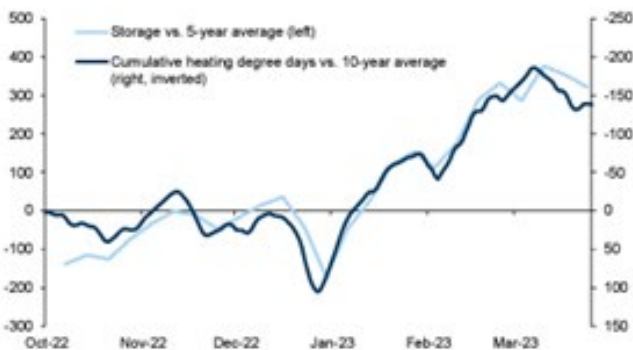


Data source: CME Group as compiled by Bloomberg, L.P.

The increase in gas storage volumes in recent months has been well documented. Storage over the winter months closely tracks heating degree days (a measure of cold weather's impact on heating demand, LHS Figure 10). The importance of the South-Central storage region was discussed last week. The large storage surplus in this region will continue to depress Henry Hub gas prices in the near term (RHS Figure 10).

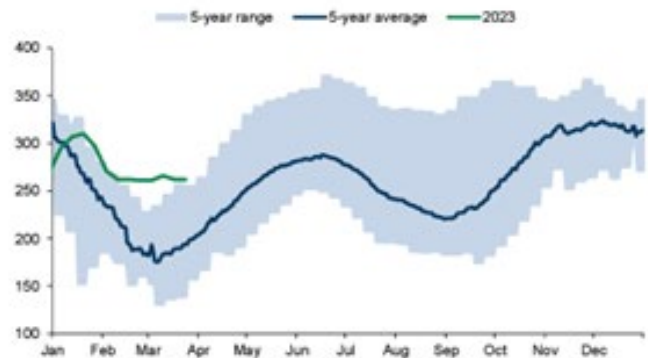
Figure 10: Heating Degree Days and US Storage and South-Central Salt Cavern Storage (Source: Various, via GS)

Exhibit 1: Warm weather in January and February has driven an accumulation in stocks well above historical levels
US gas storage vs. 5-year average (Bcf, left), and cumulative heating degree days vs. 10-year average (# of HDDs, right)



Source: EIA, Radiant Geospatial Solutions, Goldman Sachs Global Investment Research

Exhibit 2: A large storage surplus in South Central salt facilities will continue to weigh on Henry Hub prices in the near-term
South-Central salt cavern storage, Bcf

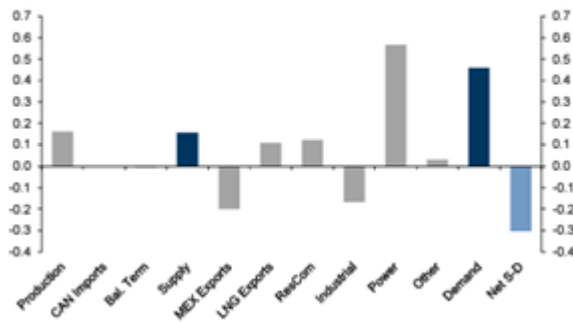


Source: EIA, Goldman Sachs Global Investment Research

The market is now concerned that sustained levels of strong production, together with weaker summer demand, may see total US gas storage volumes reach the 4.3tcf capacity before winter demand starts to reduce, which would cause some production to be shut-in irrespective of prices. Goldman however believes that this scenario is highly unlikely. Lower gas prices support power demand for gas as producers swap coal for gas (LHS Figure 11). This increase in power burns together with higher LNG feedgas demand (up 2bcf/d from July thanks to the return of Freeport to full operations), are likely to see lower summer storage injections than last year (RHS Figure 11).

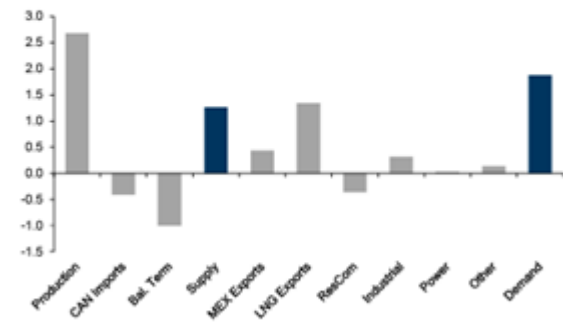
Figure 11: Natural Gas Supply and Demand Factors (Source: GS)

Exhibit 3: Lower prices vs. our previous forecast will support power demand for gas this summer from C2G substitution
Sum23 revisions to S&D under GS price forecasts, Bcf/d



Source: Goldman Sachs Global Investment Research

Exhibit 4: Higher power burns and LNG feedgas demand year-on-year are likely to lead to lower storage injections vs. last year
Sum23 year-on-year change in S&D under GS price forecasts, Bcf/d



Source: Goldman Sachs Global Investment Research

Despite the collapse in gas prices the rig count in the Haynesville, one of the major gas producing basins with very high initial production from new wells, has currently only dropped modestly (LHS Figure 12). Goldman projects total production growth of 2.5bcf/d over the course of 2023 (RHS Figure 12).

Figure 12: Haynesville Rig Count and Forecast 2023 US Production Growth (Source: various, via GS)

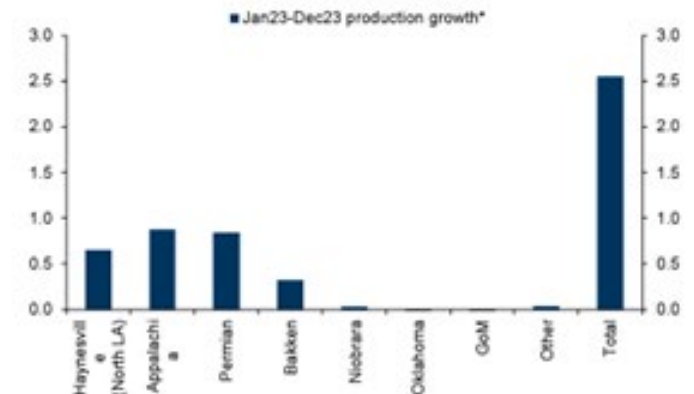
Exhibit 9: Haynesville rigs have dropped only modestly so far despite the collapse in gas prices
Haynesville rig count (# of rigs, left) and NYMEX gas 1-year futures strip price (\$/mmBtu, right)



Source: CME, Baker Hughes, Goldman Sachs Global Investment Research

Exhibit 10: We expect sequential growth of 0.7 Bcf/d in the Haynesville

GSe Jan23-Dec23 production growth by basin, Bcf/d

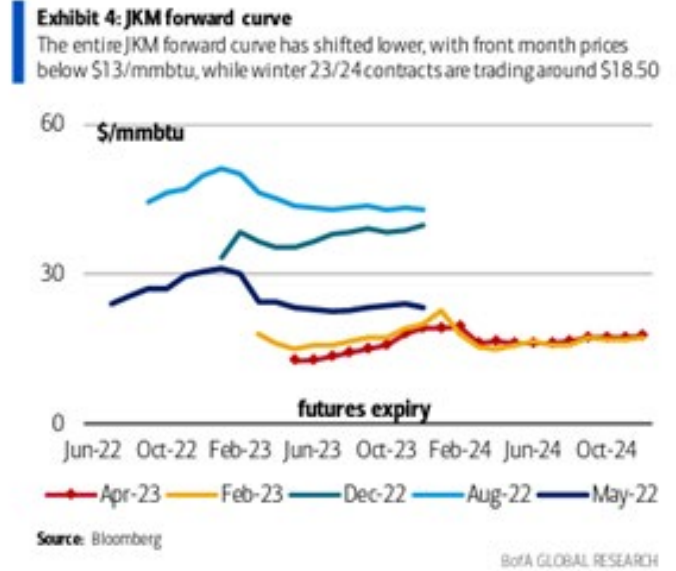
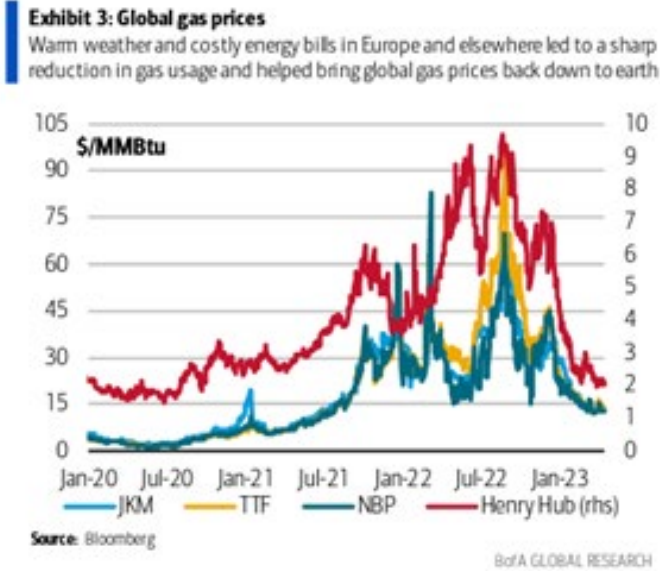


*Jan23 chosen as base given large base effects due to freeze-offs in Dec22. **Appalachia and Bakken growth largely reflect base effects.

Source: Wood Mackenzie, Goldman Sachs Global Investment Research

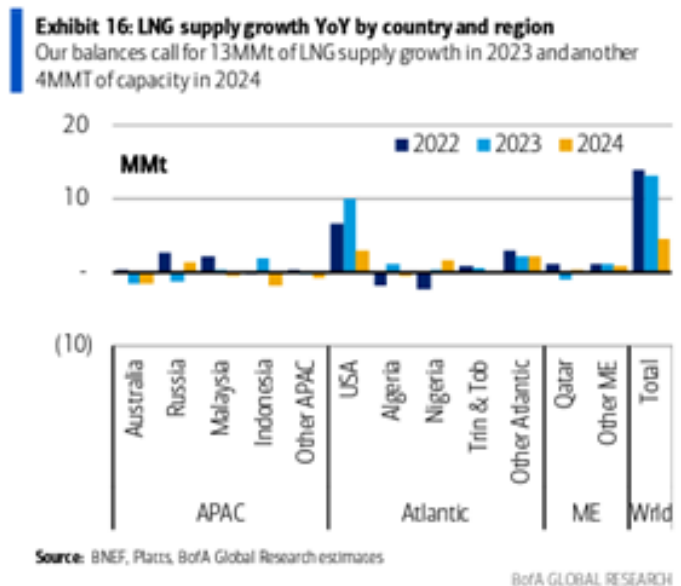
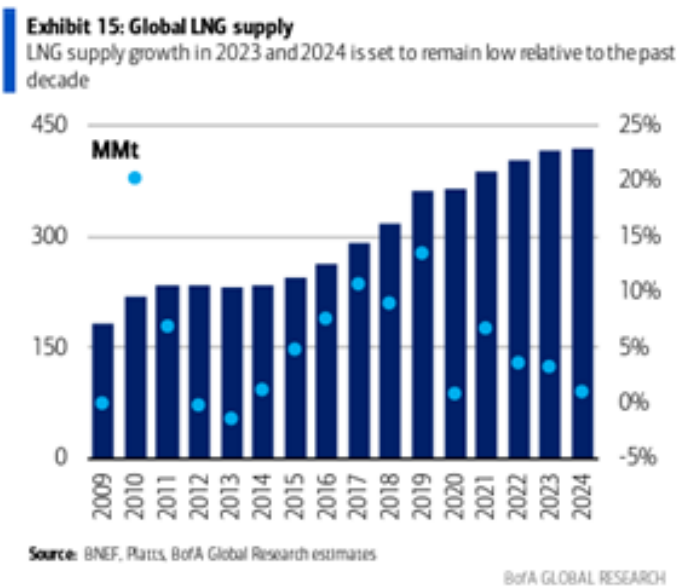
Global gas prices have all fallen to levels well below those seen in 2022 however Henry Hub remains, by some margin, the lowest marker and the US LNG export arbitrage remains highly profitable (Figure 13).

Figure 13: Global Gas Prices (Source: Bloomberg, via BofA)



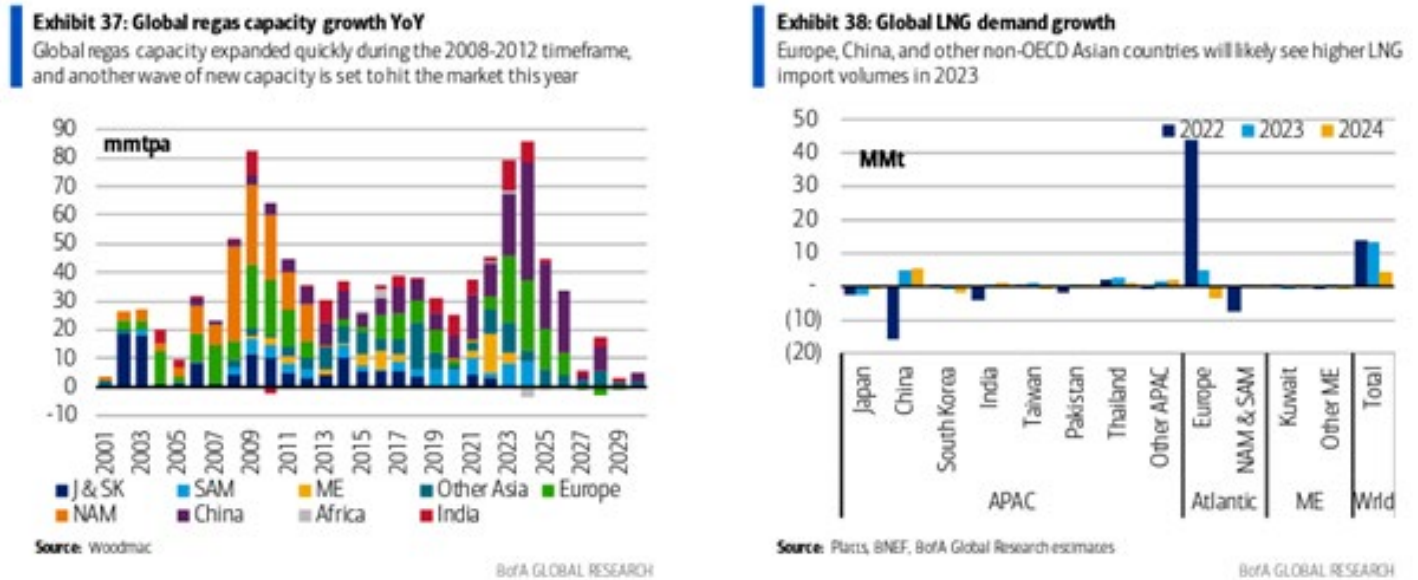
Global LNG supply growth in 2023 and 2024 is set to remain low relative to the past decade (LHS Figure 16). The US is the main contributor to this growth (RHS Figure 14).

Figure 14: Global LNG Supply (Source: various, via BofA)



Meanwhile global LNG import (regas) capacity is set to increase rapidly in the next few years (LHS Figure 15). Europe, China, and other non-OECD Asian countries will likely see higher LNG import volumes in 2023 (RHS Figure 15).

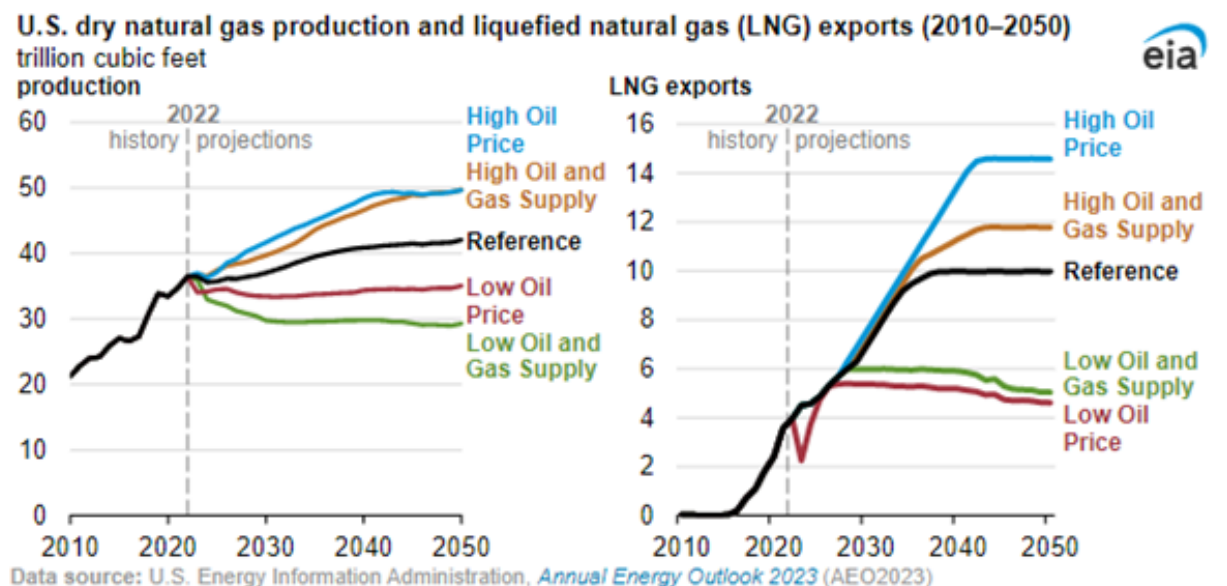
Figure 15: Global LNG Demand (Source: BofA)



The US Energy Information Administration (EIA) expects US natural gas production to increase 15% and LNG exports to increase 152% between 2022 and 2050 (Figure 16). There are several decades of attractive production opportunities ahead.

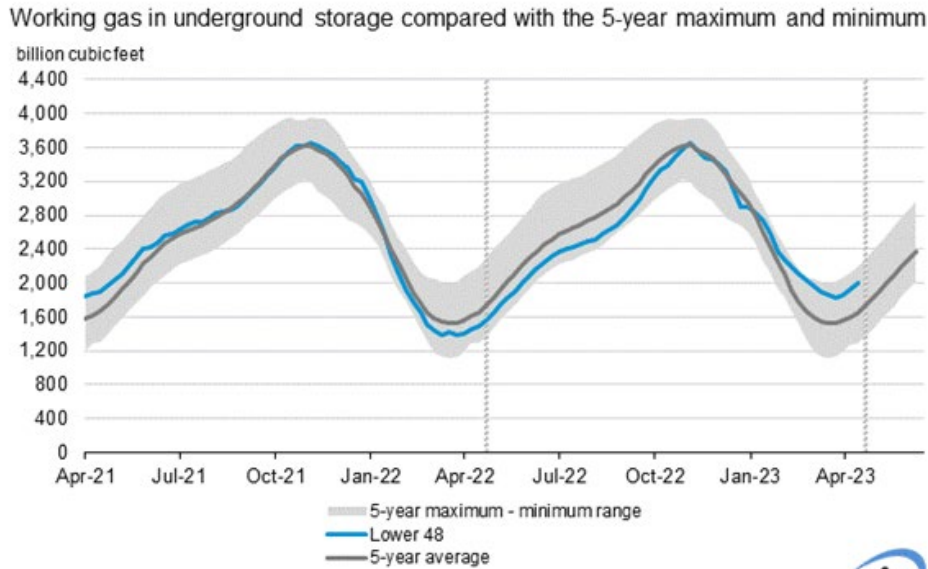
Figure 16: US Natural Gas Production and LNG Exports (Source: EIA)

U.S. natural gas production and LNG exports will likely grow through 2050 in AEO2023



According to EIA estimates working gas in storage was 2,009 bcf as of Friday 21 April 2023 (Figure 17). Stocks were 525bcf higher than last year at this time and 365bcf above the five-year average of 1,644bcf.

Figure 17: US Working Gas in Underground Storage (Source: EIA)



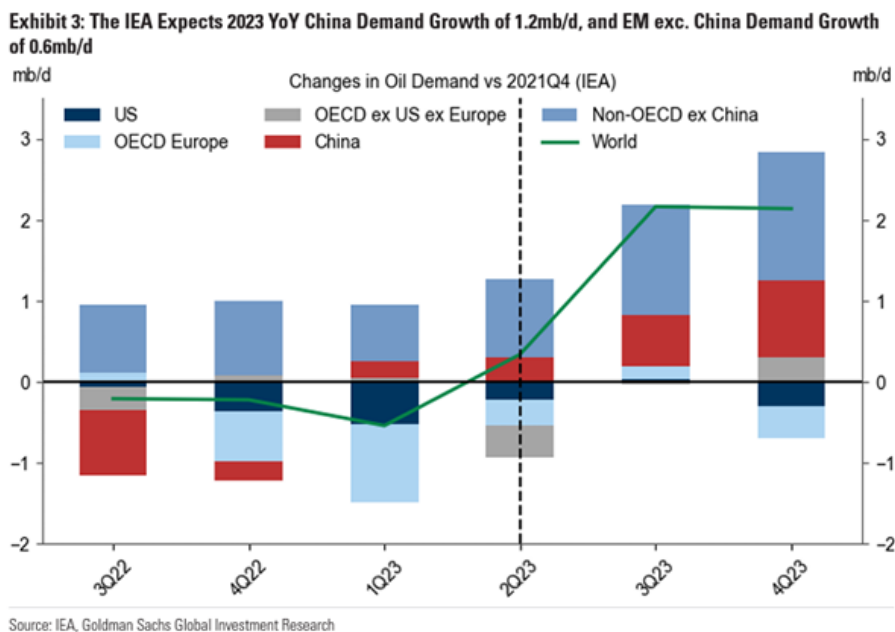
Data source: U.S. Energy Information Administration 

Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2018 through 2022. The dashed vertical lines indicate current and year-ago weekly periods.

Oil Market

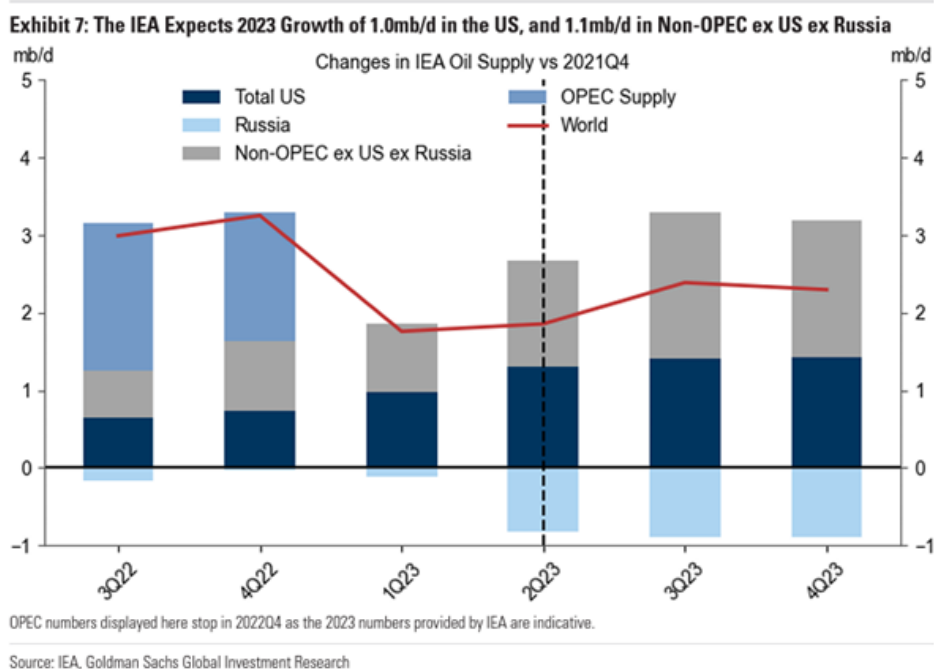
While OECD oil demand is expected to decline through 2023, demand growth in China and other Emerging Market economies are forecast by the International Energy Agency (IEA) to increase global oil demand by over 2mmbbl/d by the end of the year (Figure 18).

Figure 18: Changes in Oil Demand vs 4Q2021 (Source: IEA, via GS)



Supply is expected to broadly match this growth with additions from the US and other non-OPEC+ countries offsetting falls in Russian supply (Figure 19).

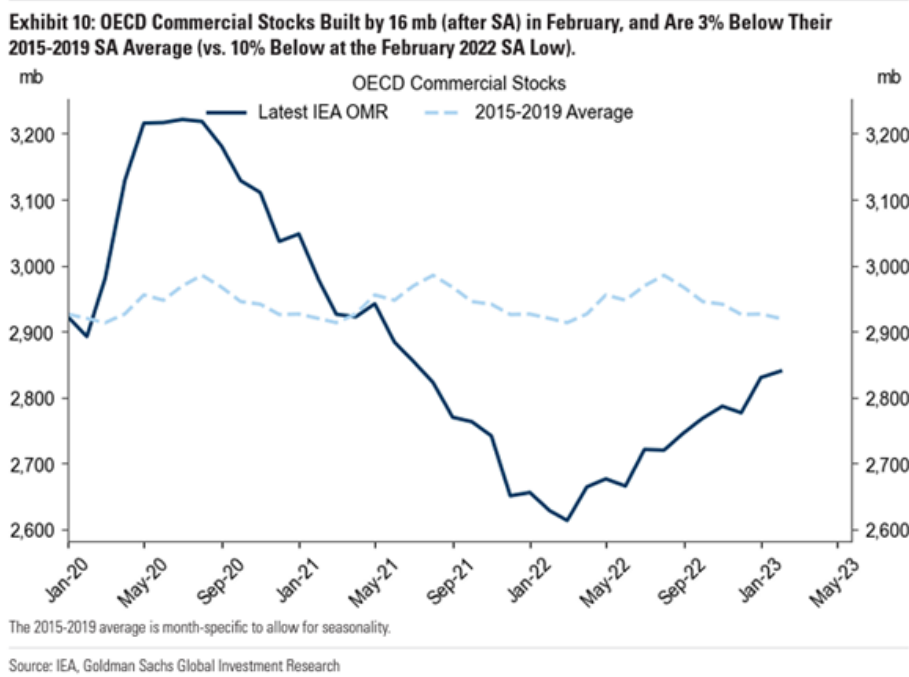
Figure 19: Changes in Oil Supply vs 4Q2021 (Source: IEA, via GS)





OECD commercial oil stocks have been building in recent months but remain below the pre-Covid 2015-2019 average (Figure 20).

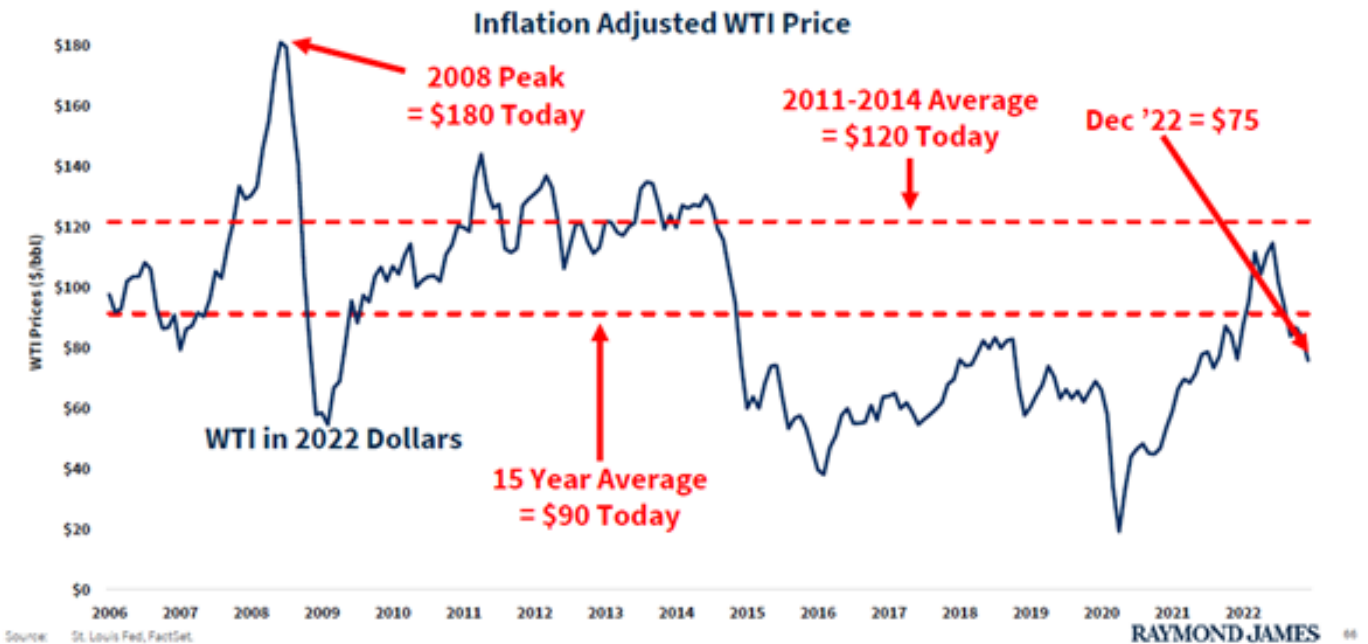
Figure 20: OECD Commercial Oil Stocks (Source: IEA, via GS)



Adjusted for inflation WTI is currently trading below its long-term average of \$90/bbl (Figure 21).

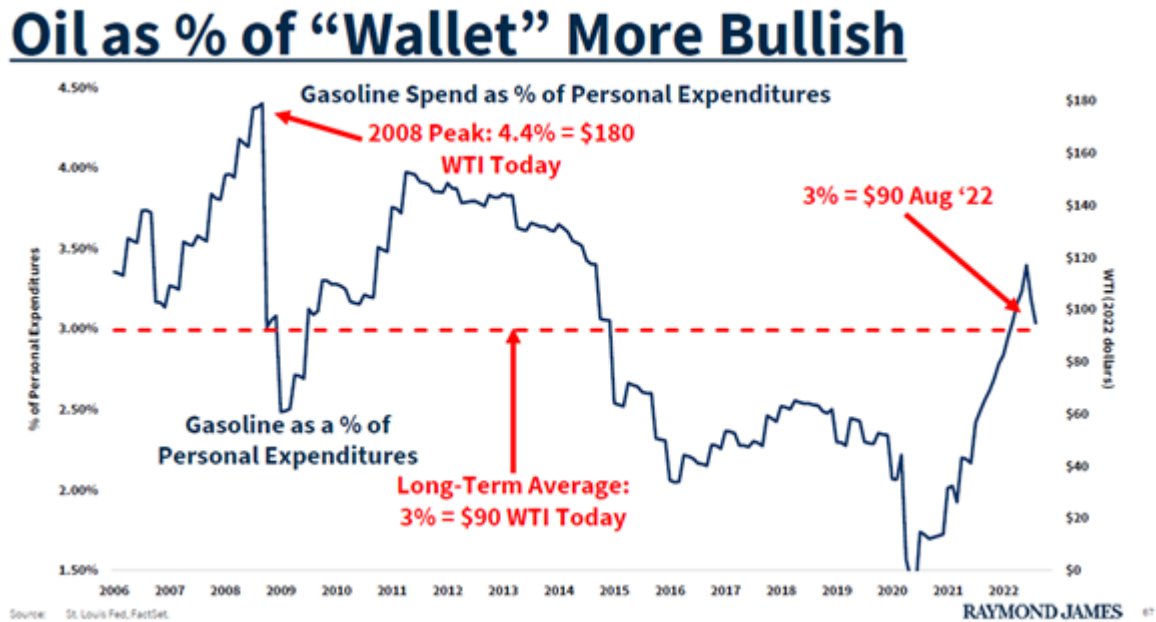
Figure 21: Inflation Adjusted WTI Price (Source: St Louis Fed, via Raymond James)

Inflation Adj. WTI Now Near LT Average



At current prices American consumers are spending less than the long-term average of 3% of their total personal expenditures on gasoline (Figure 22).

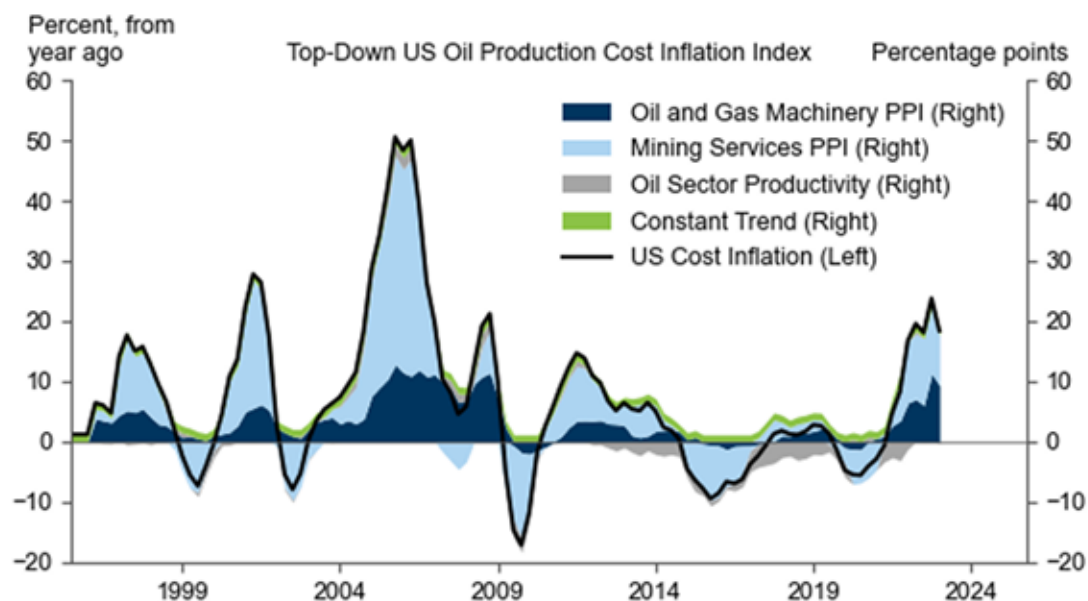
Figure 22: Gasoline Spend as % of US Personal Expenditures (Source: St Louis Fed, via Raymond James)



Over the last two years field machinery and services costs drove the sharp increase in US oil cost inflation (Figure 23). Although the fall in prices has seen this cost inflation turn-over in recent months.

Figure 23: US Oil Production Cost Inflation (Source: Haver, GS)

Exhibit 4: Field Machinery and Mining Services Drove the Surge in US Oil Cost Inflation Over the Last Two Years

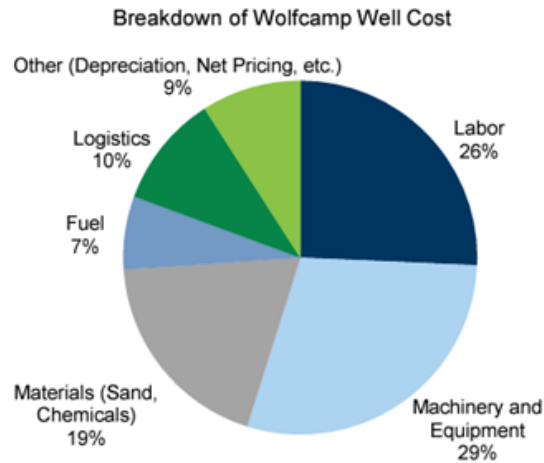


Source: Haver, Goldman Sachs Global Investment Research

Figure 24 shows the typical cost structure of a shale oil well, rental of machinery and equipment and labour costs lead followed by consumable materials such as sand for completions and chemicals.

Figure 24: Typical Cost Structure of Shales Oil Well (Source: Spears, GS)

Exhibit 8: A Typical Cost Structure of Oil Shale Well

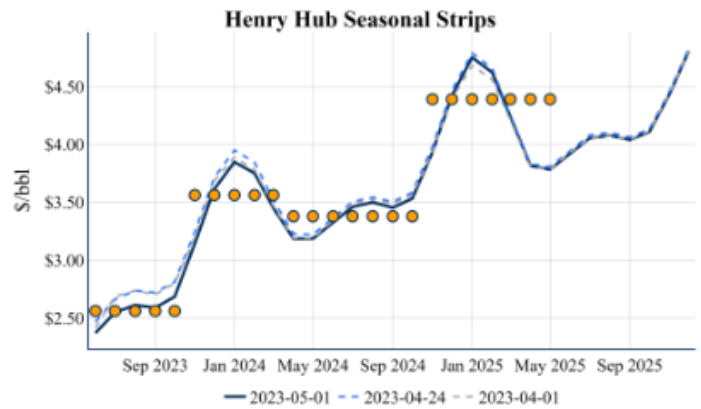
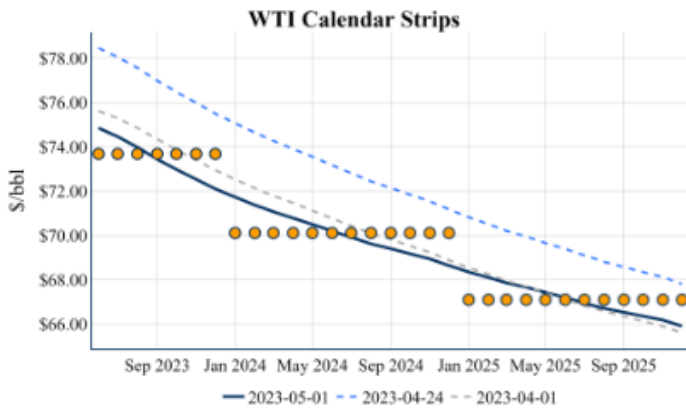
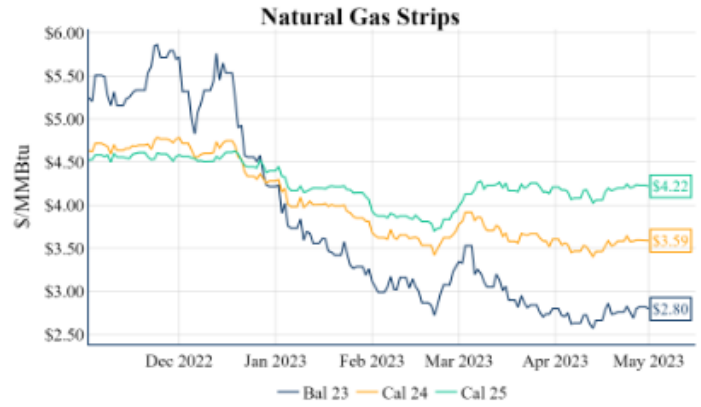
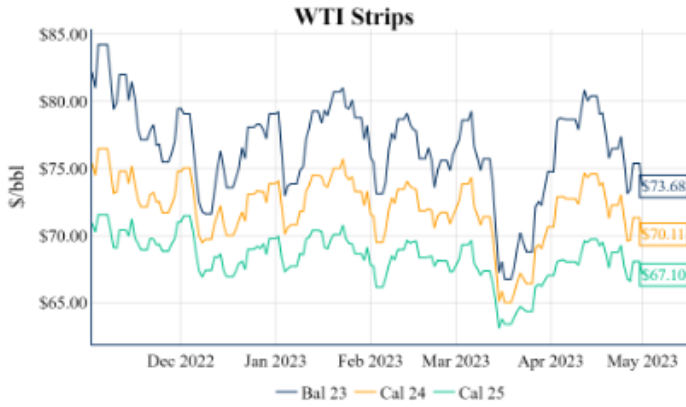


We take an average of the weights from 2022Q2-2023Q1 observations.

Source: Spears, Goldman Sachs Global Investment Research



Gas and Oil Prices 1 May 2023

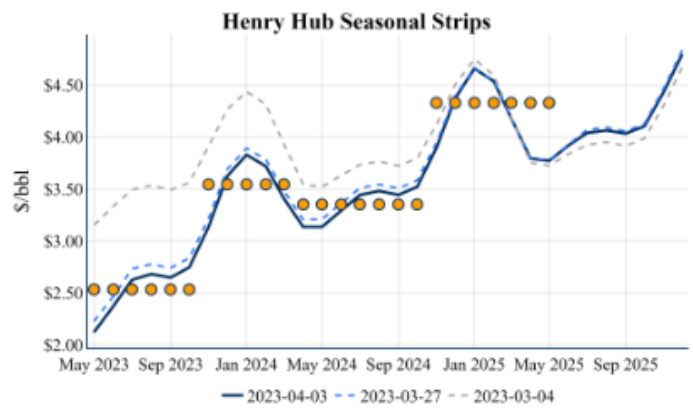
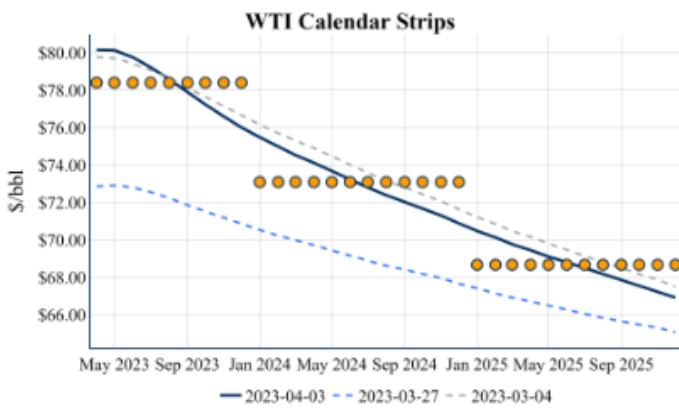
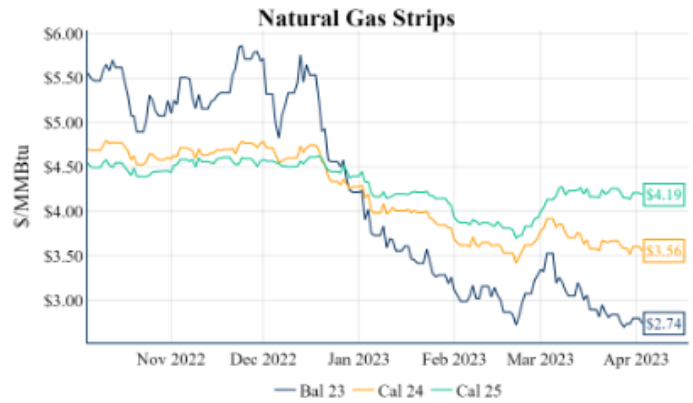
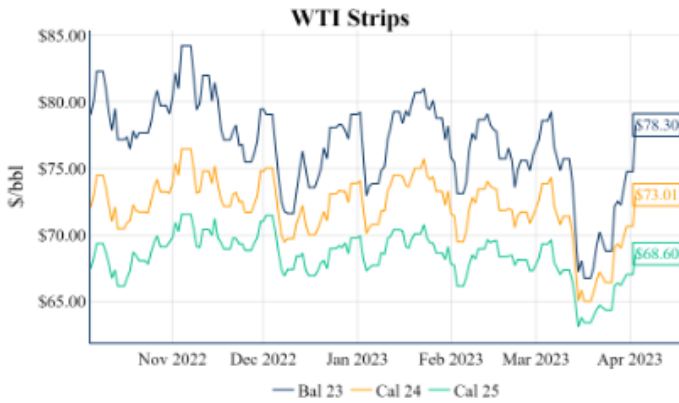


Swap Pricing	Bal 23	Cal 24	Cal 25	Cal 26
NYMEX WTI	\$73.67	\$70.11	\$67.10	\$64.58
ICE Brent	\$77.31	\$74.15	\$71.56	\$69.49
LLS	\$75.83	\$72.37	\$69.69	\$67.33
Mars	\$71.95	\$68.24	\$64.72	\$62.39
West TX Sour (WTS)	\$72.72	\$69.16	\$66.17	\$63.48

Swap Pricing	Month 1	Summer 23	Winter 23/24	Summer 24	Winter 24/25
Henry Hub Fixed	\$2.378	\$2.568	\$3.567	\$3.381	\$4.389
Eastern Gas South	-\$0.683	-\$0.900	-\$0.834	-\$0.908	-\$0.935
Waha	-\$1.220	-\$1.254	-\$1.013	-\$1.103	-\$0.660
TETCO M3	-\$0.513	-\$0.661	\$2.637	-\$0.634	\$2.138
Houston Ship Channel	-\$0.219	-\$0.236	-\$0.114	-\$0.375	-\$0.169
Columbia Gulf Mainline	-\$0.251	-\$0.344	-\$0.291	-\$0.292	-\$0.256
Panhandle East	-\$0.308	-\$0.395	\$0.072	-\$0.463	\$0.084
NGPL MidCon	-\$0.310	-\$0.346	\$0.009	-\$0.416	-\$0.003
SoCal	\$0.680	\$1.539	\$2.404	\$0.813	\$1.877
AECO	-\$0.725	-\$1.058	-\$1.099	-\$1.194	-\$1.085
Chicago City-Gates	-\$0.191	-\$0.235	\$0.347	-\$0.265	\$0.336



Gas and Oil Prices 3 April 2023



Swap Pricing	Bal 23	Cal 24	Cal 25	Cal 26
NYMEX WTI	\$78.40	\$73.09	\$68.67	\$65.25
ICE Brent	\$82.52	\$77.76	\$73.89	\$70.83
LLS	\$80.49	\$75.74	\$71.48	\$68.07
Mars	\$76.46	\$70.99	\$66.30	\$63.05
West TX Sour (WTS)	\$77.58	\$72.26	\$67.84	\$64.42

Swap Pricing	Month 1	Summer 23	Winter 23/24	Summer 24	Winter 24/25
Henry Hub Fixed	\$2.114	\$2.537	\$3.549	\$3.353	\$4.327
Eastern Gas South	-\$0.416	-\$0.672	-\$0.739	-\$0.808	-\$0.867
Waha	-\$1.694	-\$1.687	-\$1.037	-\$0.993	-\$0.722
TETCO M3	-\$0.347	-\$0.503	\$2.373	-\$0.569	\$2.104
Houston Ship Channel	-\$0.244	-\$0.233	-\$0.151	-\$0.350	-\$0.228
Columbia Gulf Mainline	-\$0.195	-\$0.288	-\$0.257	-\$0.275	-\$0.280
Panhandle East	-\$0.291	-\$0.394	\$0.140	-\$0.410	\$0.136
NGPL MidCon	-\$0.227	-\$0.318	\$0.049	-\$0.337	\$0.034
SoCal	\$0.538	\$1.922	\$3.721	\$0.862	\$2.819
AECO	-\$0.355	-\$0.860	-\$0.880	-\$0.992	-\$0.971
Chicago City-Gates	\$0.032	-\$0.074	\$0.485	-\$0.150	\$0.432



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