LONGREACH ENERGY

Monthly Report

Longreach Energy Holdings LLC

March 2022

FIRM INFORMATION

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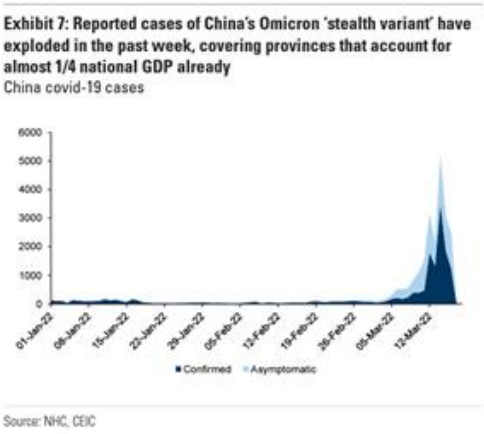
1. Market and Macro Industry Commentary

General Market Commentary

Russia's invasion of the Ukraine grinds on and with it a steady tightening of global sanctions to reduce, inter alia, Russia's ability to trade with the world. This is pushing up prices for a wide range of commodities, natural gas and oil prime among them. Henry Hub opened in March at $4.40/mmbtu and finished up $1.24/mmbtu at $5.64/mmbtu. Oil increased through March from $95.72/bbl to $100.28/bbl at close on 31 March.

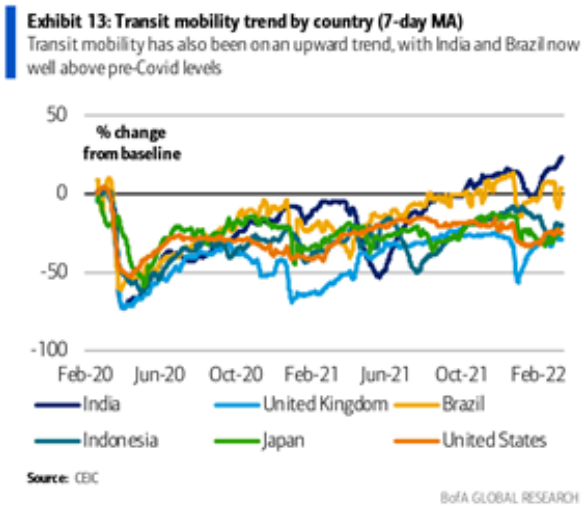
Also important to commodities markets are developments in China, where reported Covid-19 cases have soared to pandemic highs (LHS Figure 1). The cities impacted by the latest outbreak already cover 25% of nationwide GDP and rising, with the central government so far still sticking to their zero covid policy. Weaker Chinese demand is corresponding with the loss of Russian exports, which is reducing the price increase that would otherwise be needed to lower demand to balance supply (RHS Figure 1).

Figure 1: Covid Cases in China and Chinese Oil Demand (Source: various via GS)



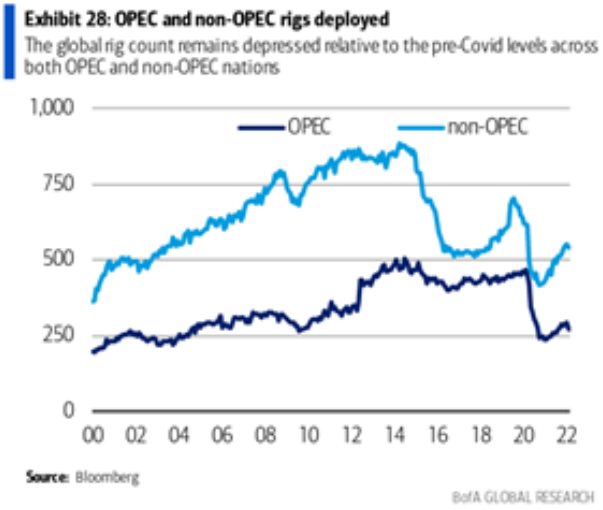
Outside China, airline travel and transit mobility continue to climb (Figure 2).

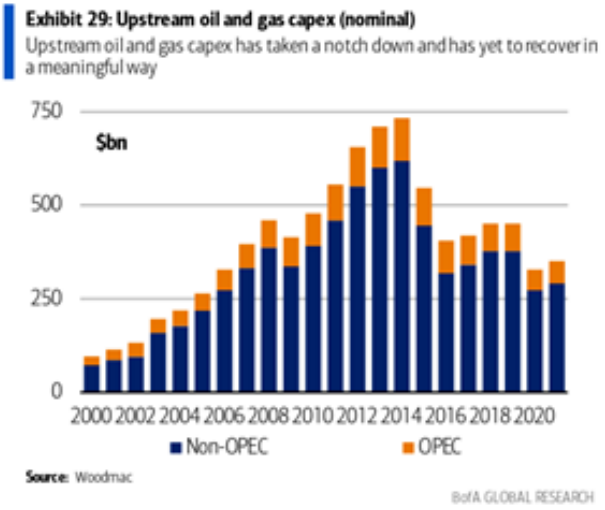
Figure 2: Russian Oil Exports and Intraday Oil Volatility (Source: various via GS)



Despite higher prices global oil and gas capital spending (RHS Figure 3) and rig count (LHS Figure 3) remain depressed. These leading indicators of supply suggest that oil and gas prices will stay higher for longer.

Figure 3: OPEC and Non-OPEC Rig Count and Upstream Capex (Source: Bloomberg, Woodmac via BofA)





Recent research from Goldman Sachs (GS) has highlighted that commodity investments provide an ideal hedge against stagflation. This year has seen the strongest start to commodity prices for any year since 1915, principally on concerns of supply disruptions (LHS Figure 4). This has put further upside pressure on headline inflation, already persistently high across the globe, as surging food and energy prices feed through to broader economic sectors (Figure 5). At the same time, risky assets have repriced sharply lower (RHS Figure 4). GS notes that this conforms to a historical pattern in which commodities have tended to perform best in periods of high and rising inflation, in part due to their direct link to inflation as well as inflation expectations (Figure 6).

Figure 4: Commodities and Risky Asset Performance in 2022 (Source: Bloomberg via GS)

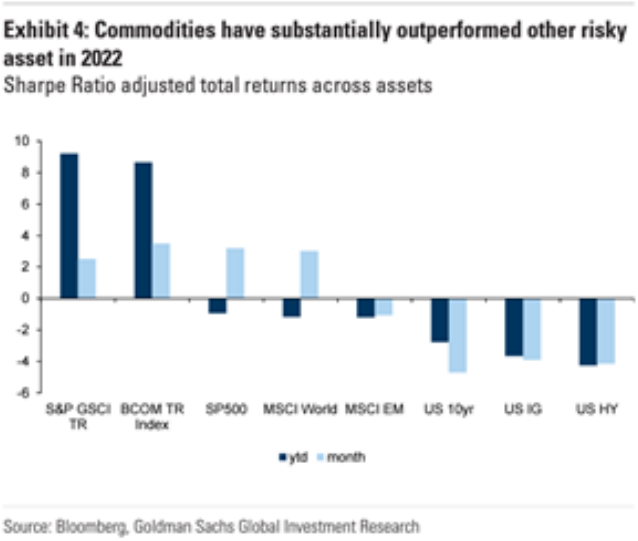
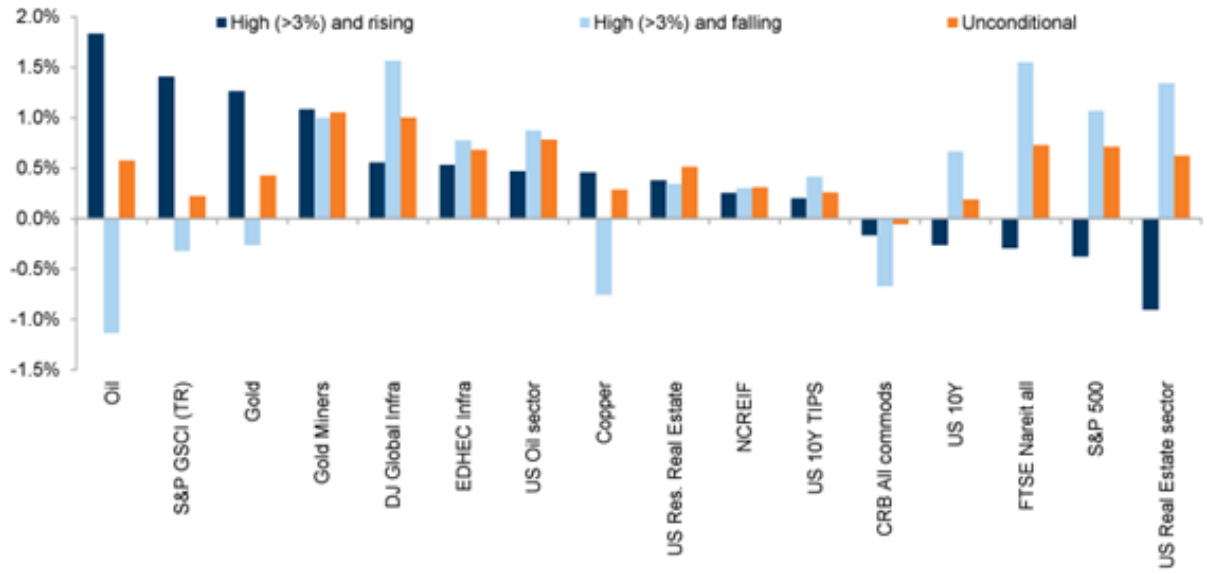


Figure 5: Inflation (Source: Bloomberg via GS)

Figure 6: Real Asset Performance (Source: various via GS)

Exhibit 5: Real assets outperform in periods of high and rising inflation but less with falling inflation
Average monthly, real return (data since 1950, inflation based on US CPI)



The FTSE NAREIT All index tracks all US REITs since 1972; before that, we use the Kenneth French real estate sector. We construct the Residential Real Estate index using Case/Shiller HPI from 1987 (FHFA before) and an estimate of rental yield before transaction cost (Zillow since 2016, macrohistory database before 2016). The NCREIF index (NPI) is a quarterly, unleveraged total return for private commercial real estate properties held for investment purposes only. The Dow Jones (DJ) Brookfield Infrastructure index tracks listed companies since 2012 - before we aggregate sectors from Worldscope (1973-2012) and Kenneth French (1926-73). The EDHEC Infrastructure 300 index replicates broad market exposure to unlisted infrastructure investments gross of fees or other costs - the index is calculated monthly as total return index and adjusted annually.

Source: Datastream, Haver Analytics, Kenneth French, Goldman Sachs Global Investment Research

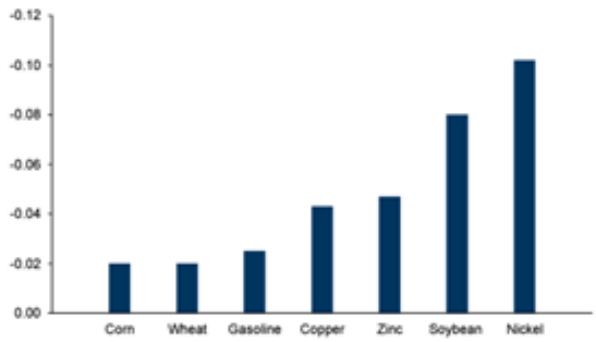
GS adds that many western governments heavily tax petrol, providing them with a greater ability to absorb crude price shocks (LHS Figure 7). Many countries, including Australia, have already announced a short-term reduction in petrol taxes. Furthermore, when commodities demand destruction is required, prices can rally substantially as elasticity of demand is quite low (RHS Figure 7).

Figure 7: Taxation of Petrol and Demand Elasticity across Commodities (Source: GS)

Exhibit 13: Western European governments heavily tax gasoline, leaving them with a larger ability to absorb crude price shocks

Source: Tax Institute, Goldman Sachs Global Investment Research

Exhibit 14: When commodities demand destruction is required, prices can rally substantially as elasticity of demand is quite low
Demand elasticities across commodities

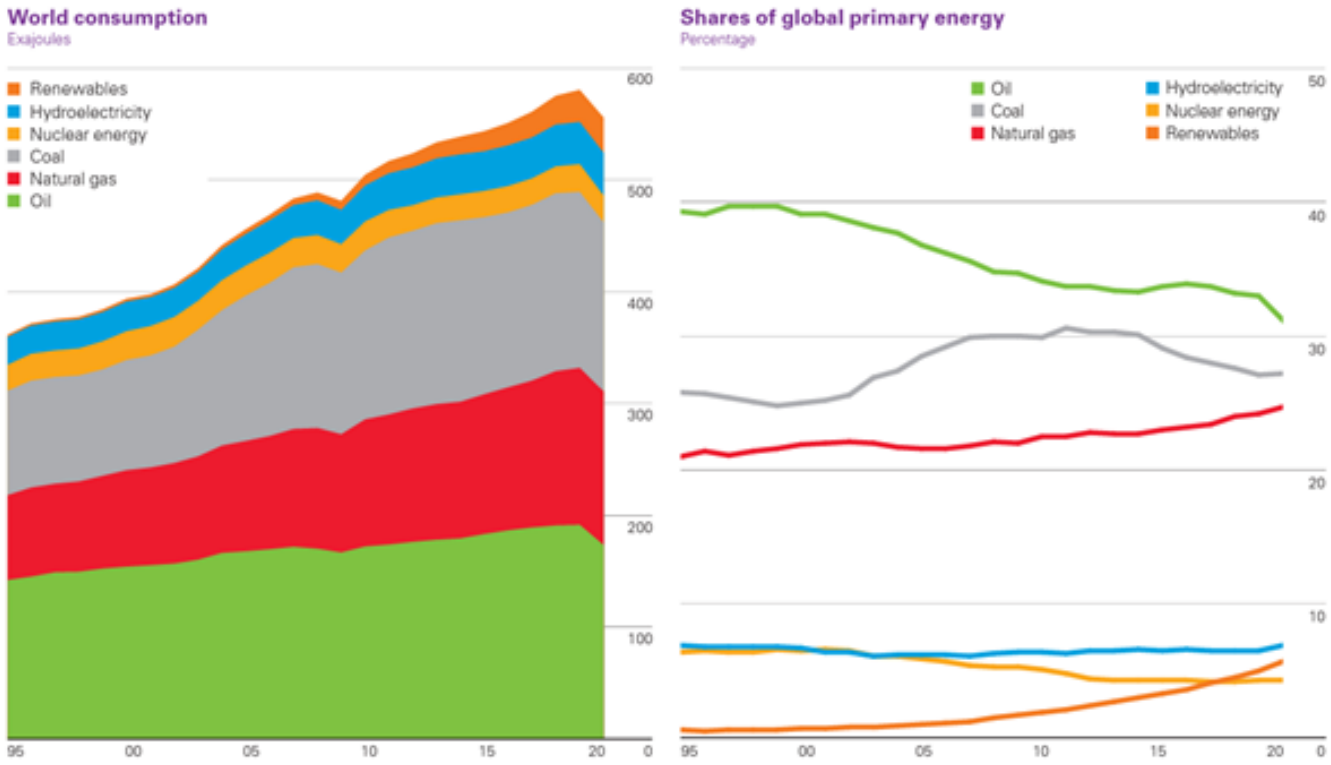


Source: Goldman Sachs Global Investment Research

BP has released its Statistical Review of World Energy for 2021.

The global Covid-19 pandemic reduced worldwide energy consumption by 4.5% in 2020, the first decline since 2009, while the 15-year trend is for steady growth (LHS Figure 8). Natural gas consumption increased in both absolute volume and share of energy supply (RHS Figure 8). Oil continues to hold the largest share of the energy mix (31.2%). Oil consumption is increasing in absolute terms while declining as share of energy supply.

Figure 8: World Energy Consumption and Shares of Primary Energy (Source: BP)



Highlighting the challenge to supply the world's population with adequate energy, average global energy consumption per capita decreased by 5.5% in 2020 to 71.4GJ/head (Figure 9). North America is the region with the highest consumption per capita (217 GJ/head). Africa remains the region with the lowest average consumption (14GJ/head). A reminder that the recognised benchmark to achieve overall high standard of living is 100 GJ/head.

Figure 9: Energy per capita by Region (Source: BP)

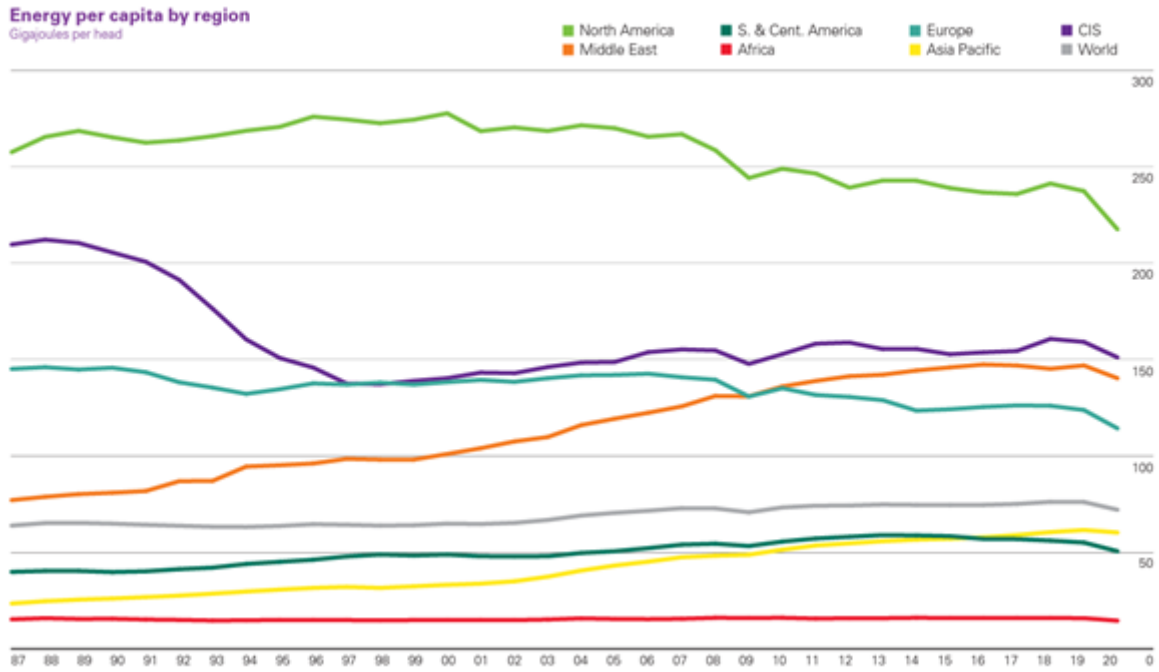
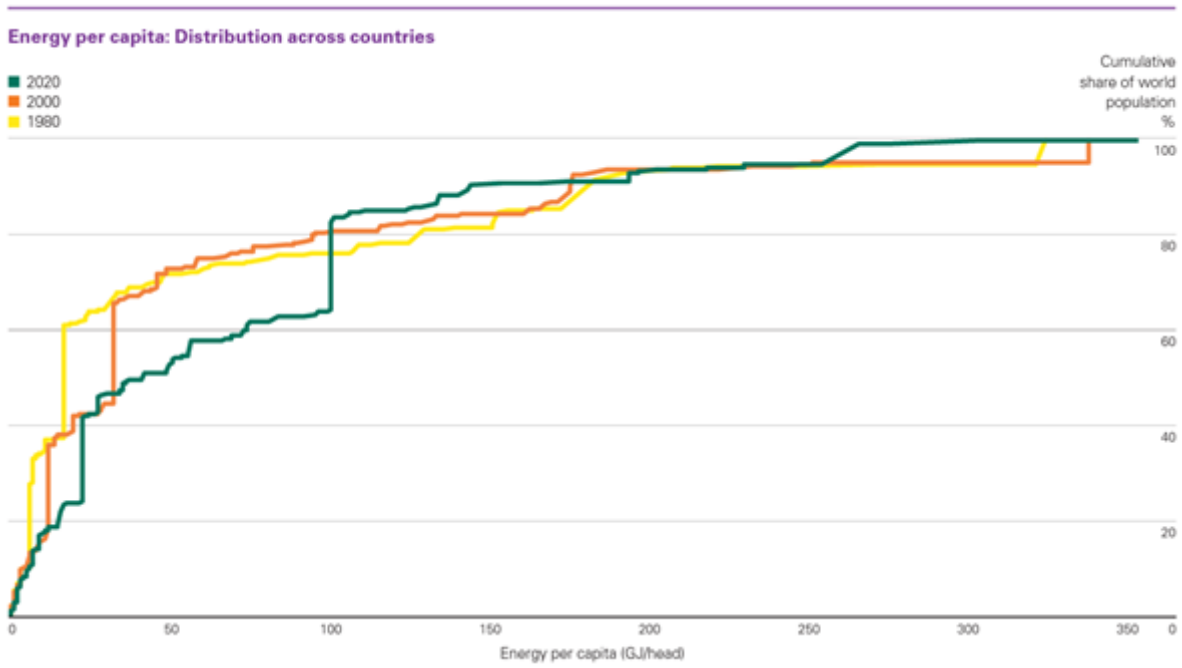


Figure 10 shows the distribution across countries of energy per capita. In 2020 63.7% of the global population lived in countries where average energy demand per capita was less than 100GJ/head. This is a significant decrease from 81% in 2019 as energy demand per capita in China increased to 101GJ/head from 99GJ/head in 2019. Despite the improved percentage of population enjoying 100GJ/head, in the regions with lowest energy supply, the share of the global population consuming less than 75GJ/head increased from 57% in 2019 to 60.6% last year.

Figure 10: Energy per capita Distribution across Counties (Source: BP)



North American and Saudi Arabia have the highest per capital oil consumption (Figure 11). Those two regions along with Russia and Iran have the highest natural gas consumption per capita (Figure 12).

Figure 11: Oil Consumption per capita in 2020 (Source: BP)

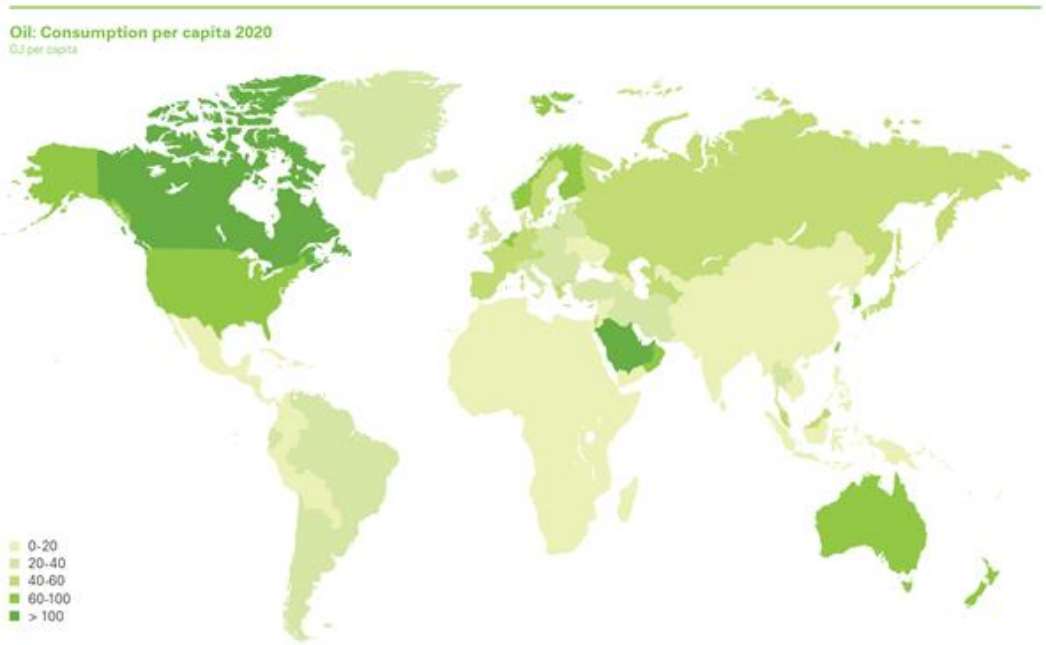
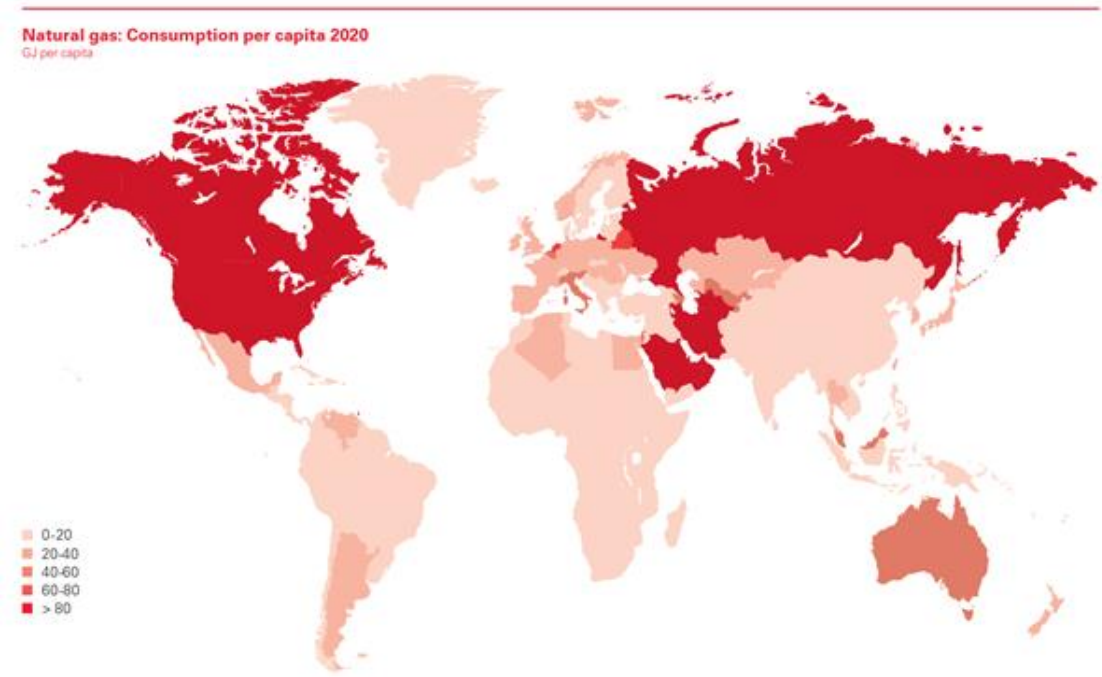
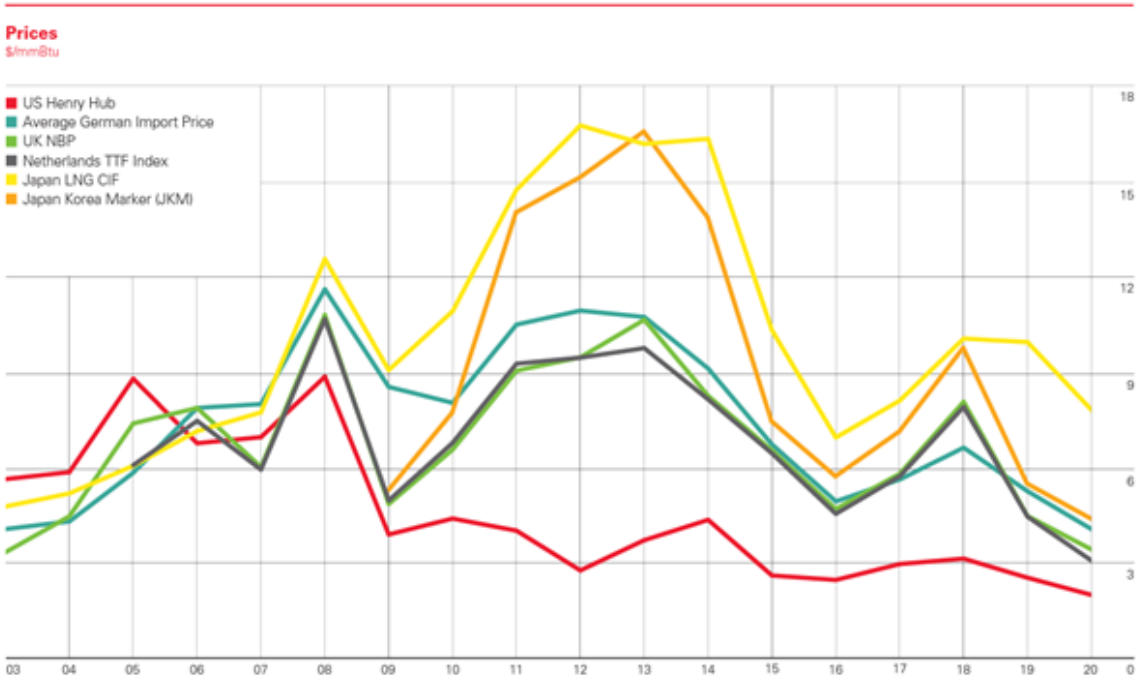


Figure 12: Natural Gas Consumption per capita in 2020 (Source: BP)



US Henry Hub natural gas prices remain the lowest of any international benchmark (Figure 13). As US LNG export volumes increase, we expect US prices to converge with those in the rest of the world.

Figure 13: Natural Gas Prices (Source: BP)



The latest Baker Hughes rig count data follows. In March US total rigs increased by 10 from 663 to 673. Oil rigs increased by 6 from 527 to 533 while gas rigs increased by 3 from 135 to 138.

Baker Hughes rig count

Baker Hughes

Rotary Rig Count

4/1/22

Location	Week	+/-	Week Ago	+/-	Year Ago
Land	657	4	653	241	416
Inland Waters	2	-1	3	2	0
Offshore	14	0	14	0	14
United States Total	673	3	670	243	430
Gulf Of Mexico	14	0	14	0	14
Canada	124	-16	140	55	69
North America	797	-13	810	298	499
U.S. Breakout Information	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Oil	533	2	531	196	337
Gas	138	1	137	47	91
Miscellaneous	2	0	2	0	2
Directional	35	0	35	16	19
Horizontal	613	3	610	222	391
Vertical	25	0	25	5	20

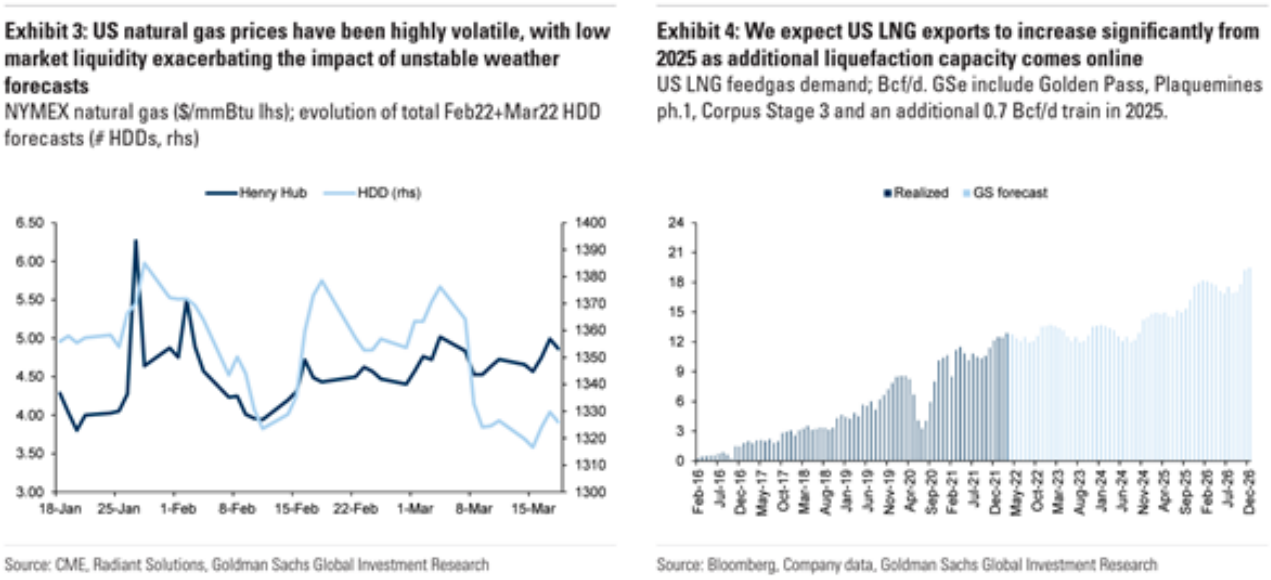
Gas Market

Henry Hub has gone through a wide $4-$6/mmbtu range in recent months, currently at $6/mmbtu. Although this might seem related to the Ukraine war, US gas fundamentals have remained largely disconnected from the global market (LHS Figure 14), with US volatility instead mainly driven by weather, production levels and low liquidity (LHS Figure 15). With US LNG exports currently at capacity, it will likely take years before Europe's efforts to boost LNG imports result in added US export demand, even with the recent US-EU agreement (RHS Figure 14).

Figure 14: NGL Spot Prices (Source: EIA)

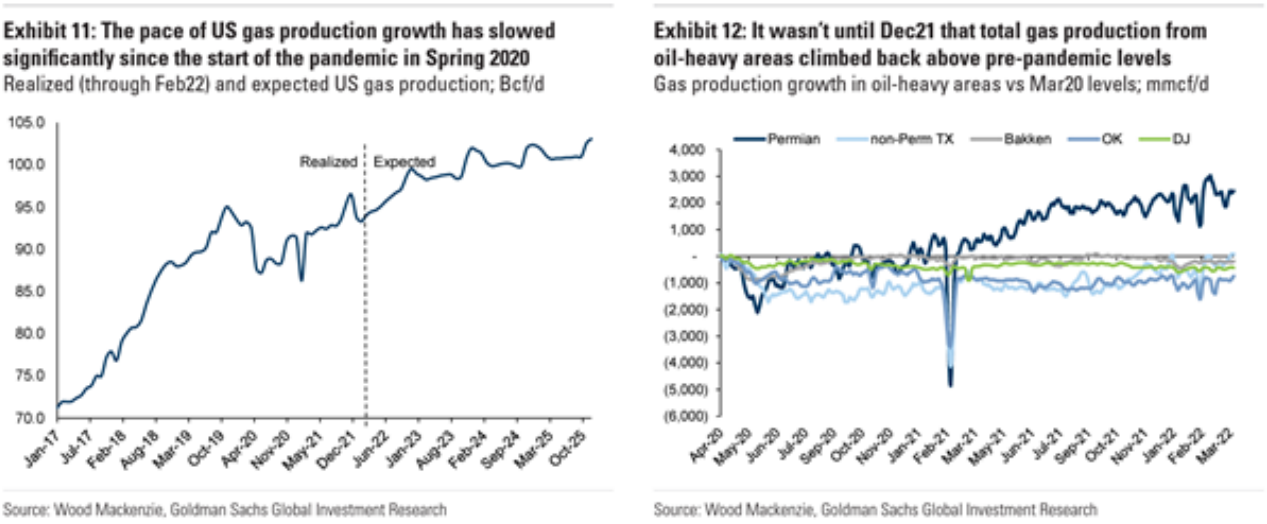
Goldman Sachs believes that the next wave of US LNG export capacity additions from 2025 will bring renewed tightening to US natural gas markets (RHS Figure 15).

Figure 15: US Gas Price Volatility and US LNG Exports (Source: various via GS)



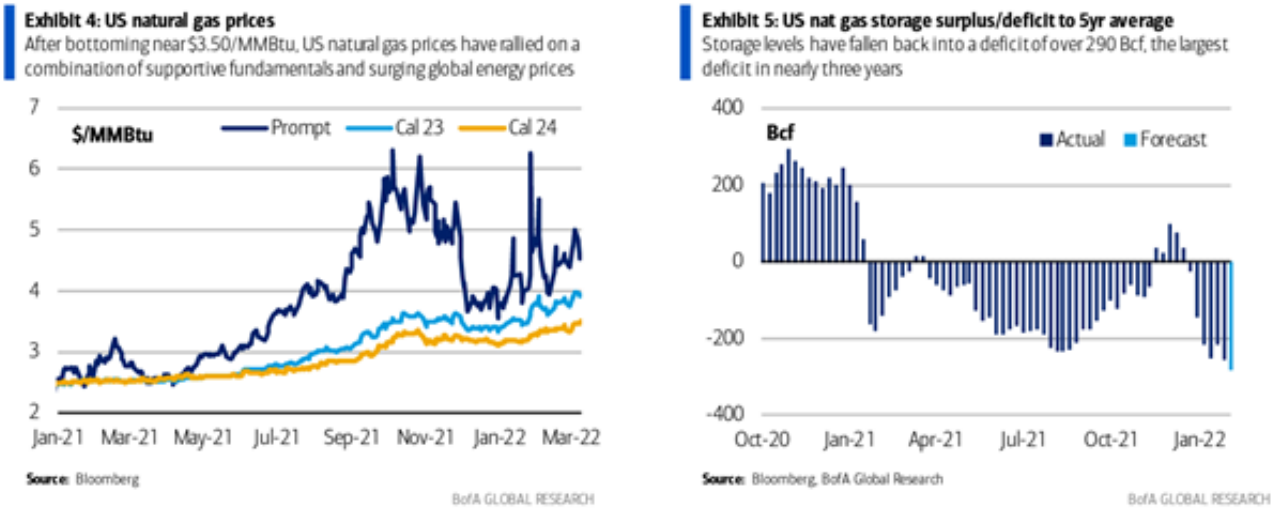
Supply conditions remain tight, the rate of US natural gas production growth has slowed significantly since the start of the pandemic in 1Q20 (Figure 16).

Figure 16: US Natural Gas Production (Source: Woodmac via GS)



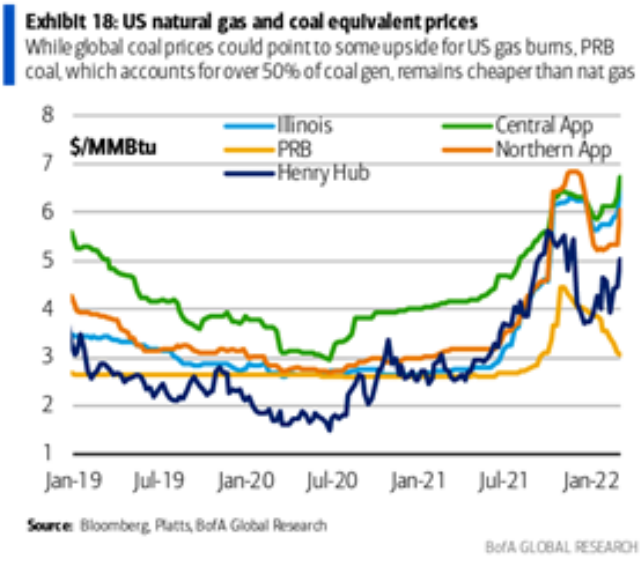
LHS Figure 17 shows prompt Henry Hub together with calendar 23 and 24 averages to early March. RHS Figure 17 shows the decline in natural gas storage volumes that have driven the price increases.

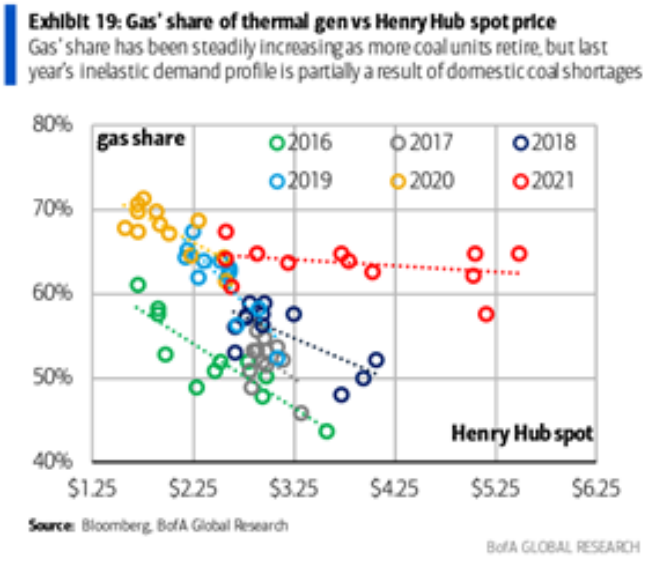
Figure 17: Henry Hub Prices and US Nat Gas Storage (Source: Bloomberg, BofA)



Many electricity generators in the US can switch fuel between natural gas and coal. While global coal prices are very high Powder River Basin coal (PRB), which accounts for over 50% of US coal generation, remains cheaper than natural gas (LHS Figure 18). Reduction of carbon emissions provides a non-cost incentive to use gas as coal units are retired, however the inelastic demand profile for gas in 2021 was partially a result of domestic coal shortages (RHS Figure 18).

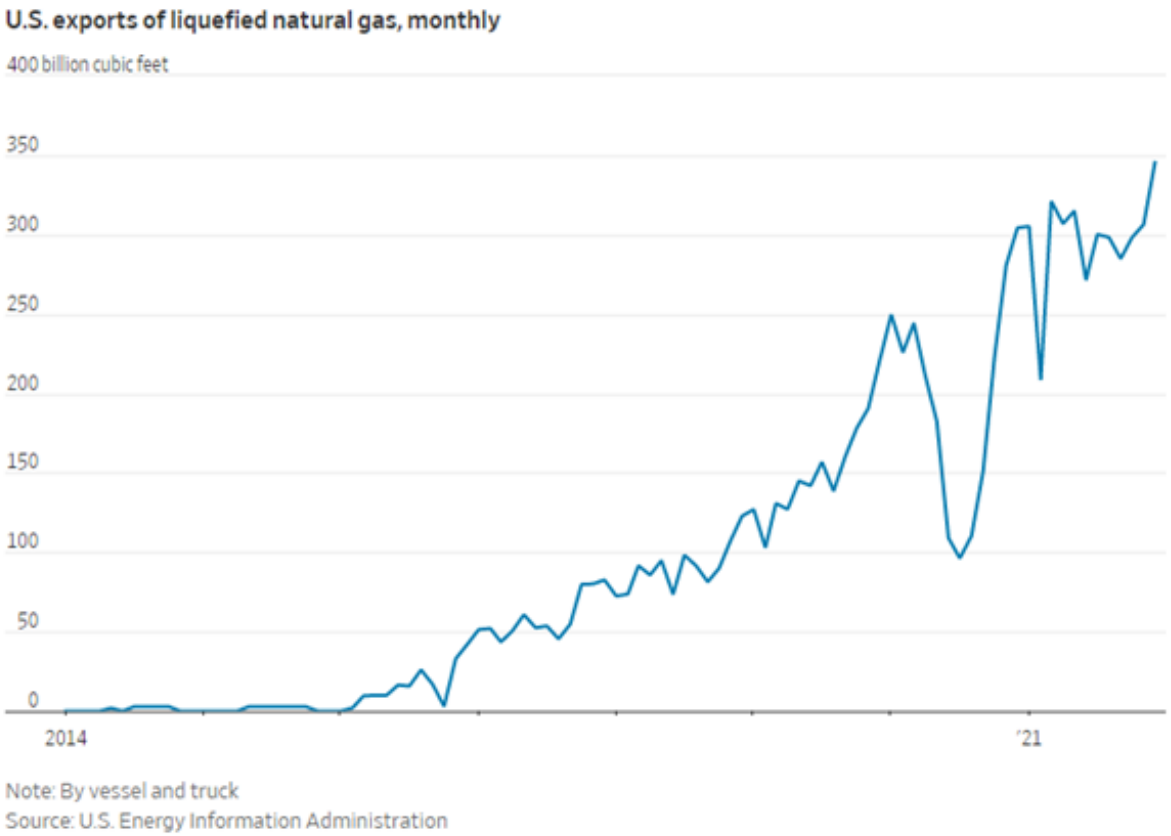
Figure 18: US Nat Gas and Coal Prices and Gas Generation Price Sensitivity (Source: Bloomberg, BofA)





The meteoric growth of the US LNG export industry since 2014 is shown in Figure 19.

Figure 19: US LNG Exports, monthly (Source: EIA)

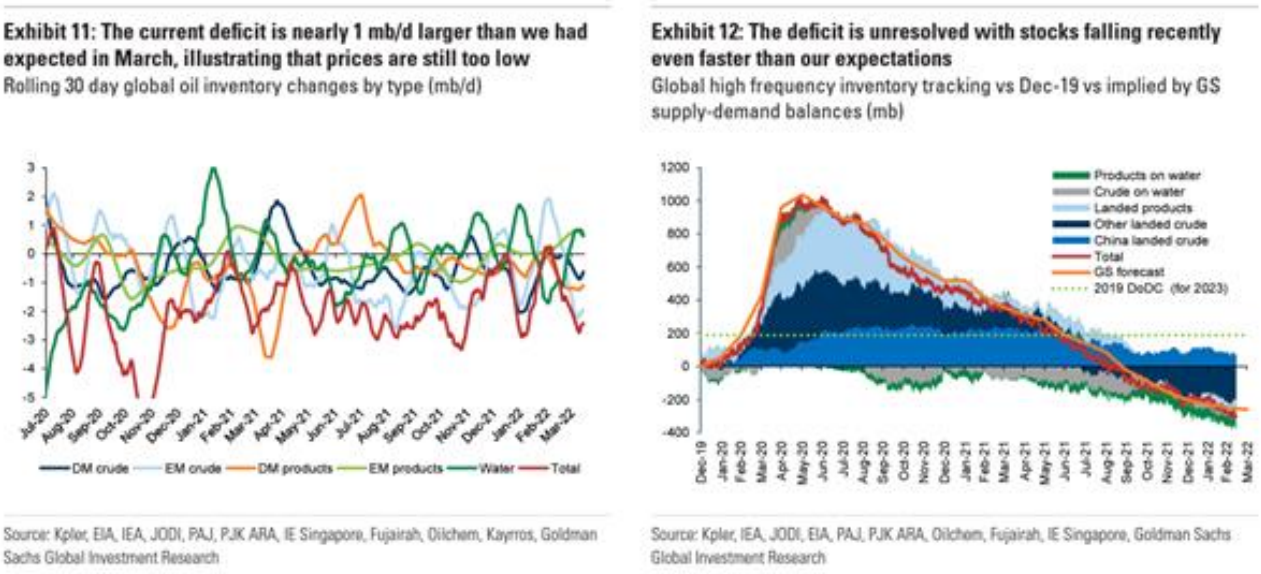


Oil Market

The US administration has confirmed a record large Strategic Petroleum Reserve (SPR) release of 180mmbbl over the next six months, with the potential for other countries to release an additional 30 to 50mmbbl. This release will help the oil market rebalance in 2022, increasing supply and thereby reducing the amount of necessary price-induced demand destruction. A release of inventory is, however, not a persistent source of supply. In fact, lower prices in 2022 support oil demand while slowing the acceleration in shale production, leaving a likely deficit in 2023 with an eventual need to refill the SPR. The US administration has indicated that it will seek to restock the SPR at prices up to $80/bbl, this is likely to provide an effective floor for US WTI well above the average price through recent years.

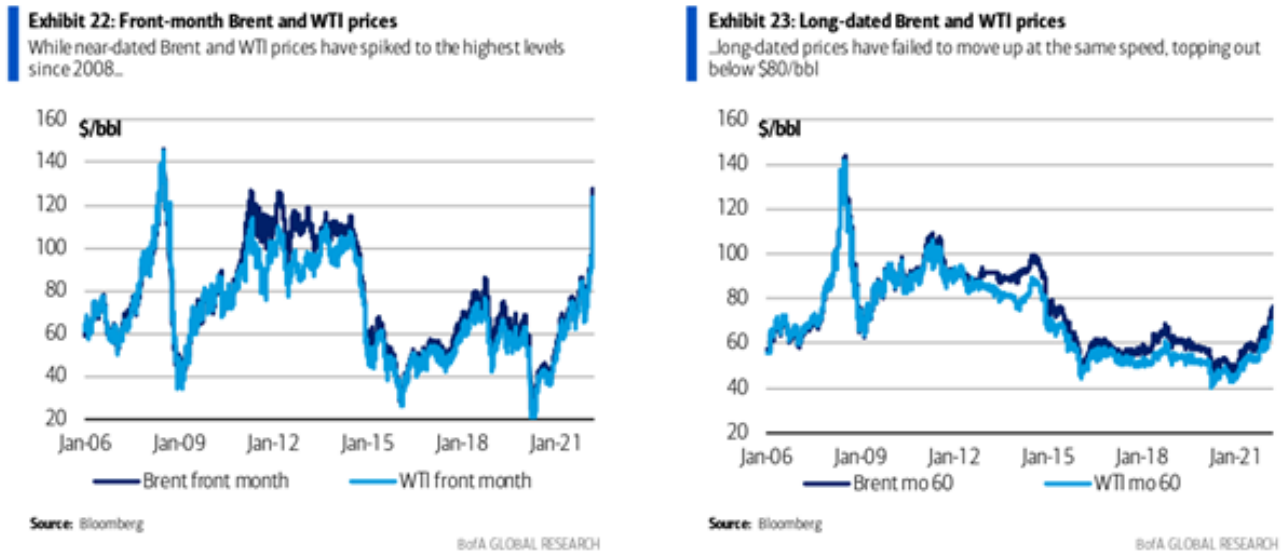
Goldman Sachs estimates that the current supply deficit is almost 3 mmbbld (LHS Figure 20) and oil stocks are declining rapidly (RHS Figure 20). This implies that prices are still too low.

Figure 20: Global Oil Inventory Changes (Source: various via GS)



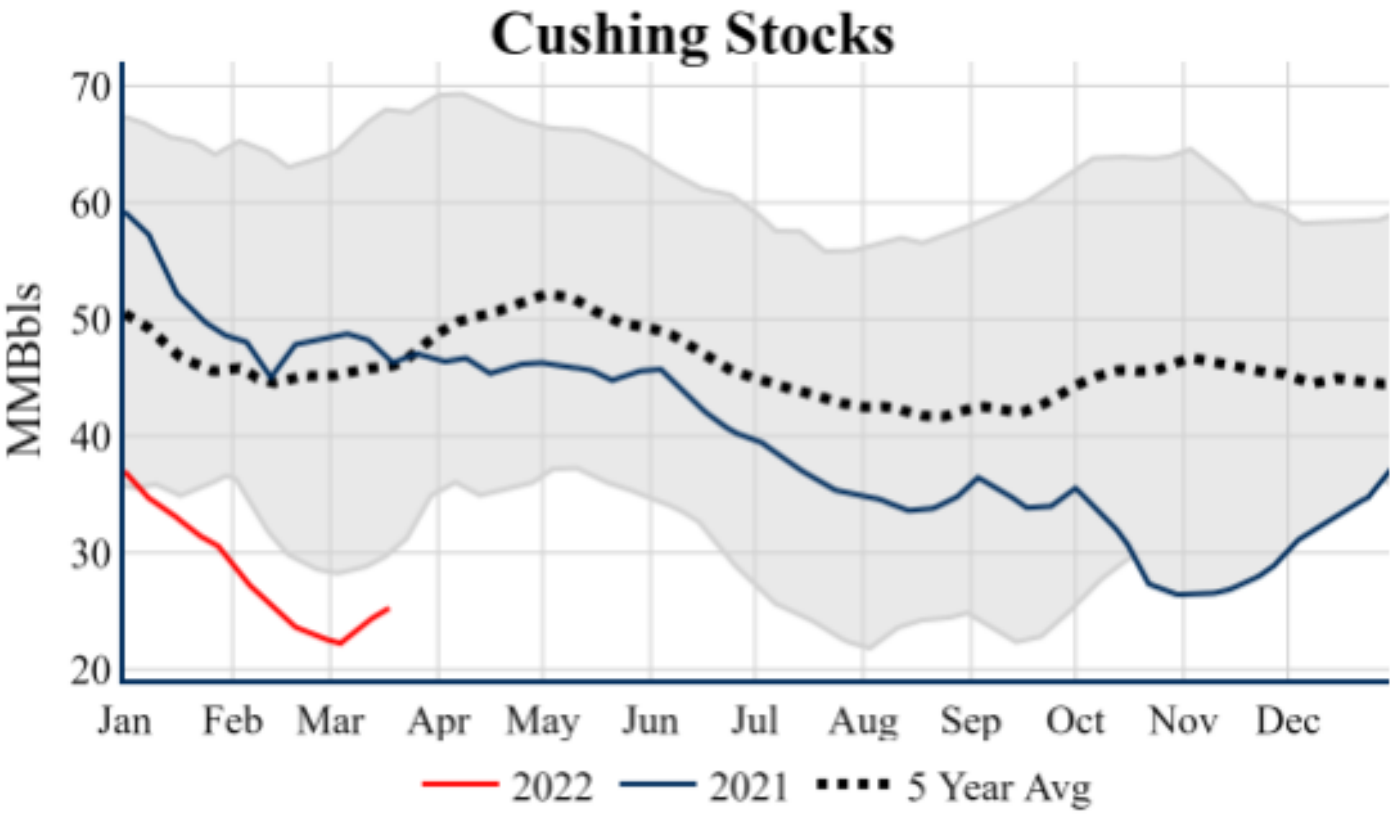
Oil price increases have been concentrated in the front end of the forward curve (LHS Figure 21) while long dated prices, an important driver of capital spending decisions, have failed to respond at the same speed, topping out below $80/bbl (RHS Figure 21).

Figure 21: WTI and Brent Prompt and Long Dated Prices (Source: Bloomberg via BofA)



Oil stocks at Cushing (the delivery point for the WTI contract) have declined almost 18% in the last 12 months and are well below the 5-year range (Figure 22).

Figure 22: Cushing Oil Stocks (Source: EIA)



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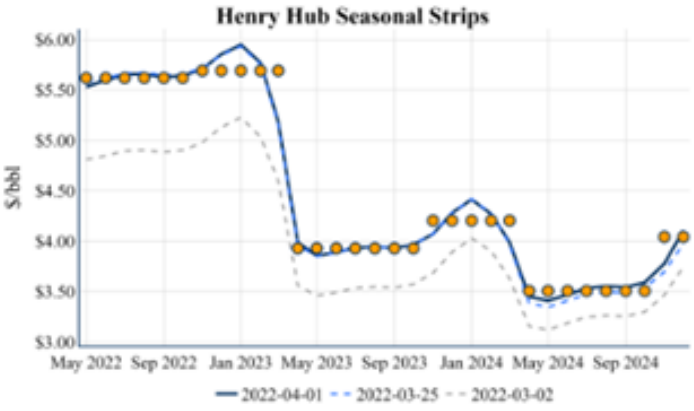
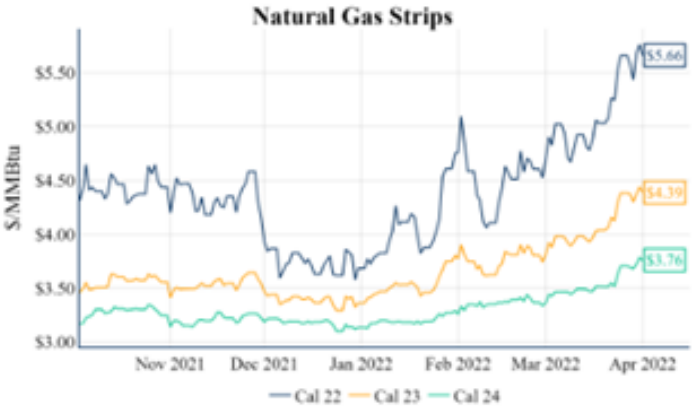
Gas and Oil Prices 1 April 2022





Swap Pricing	Bal 22	Cal 23	Cal 24	Cal 25
NYMEX WTI	$93.44	$84.56	$78.42	$74.02
ICE Brent	$98.29	$89.53	$83.49	$79.60
LLS	$94.15	$85.28	$78.47	$74.10
Mars	$91.26	$82.93	$76.71	$72.31
Western Canadian Crude (WCC)	$81.36	$71.55	$62.71	$57.94
West TX Sour (WTS)	$92.78	$84.04	$77.93	$73.54

Swap Pricing	Month 1	Summer 22	Winter 22/23	Summer 23	Winter 23/24
Henry Hub Fixed	$5.532	$5.619	$5.688	$3.931	$4.203
Eastern Gas South	-$0.820	-$0.994	-$0.832	-$1.119	-$0.865
Waha	-$1.012	-$1.012	-$1.077	-$1.748	-$1.117
TETCO M3	-$0.671	-$0.813	$2.498	-$0.771	$1.829
Houston Ship Channel	-$0.252	-$0.203	-$0.093	-$0.266	-$0.105
Columbia Gulf Mainline	-$0.484	-$0.501	-$0.270	-$0.370	-$0.244
Panhandle East	-$0.610	-$0.577	-$0.049	-$0.632	-$0.118
NGPL MidCon	-$0.515	-$0.520	-$0.105	-$0.585	-$0.167
SoCal	-$0.557	$0.168	$0.765	-$0.108	$0.606
AECO	-$1.480	-$1.433	-$1.085	-$1.007	-$0.883
Chicago City-Gates	-$0.336	-$0.326	$0.250	-$0.274	$0.226

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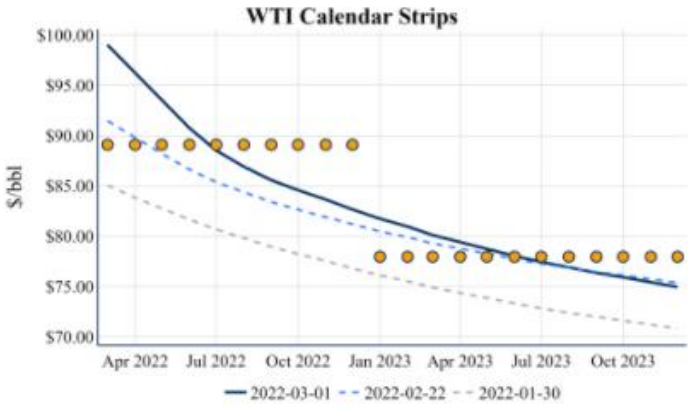
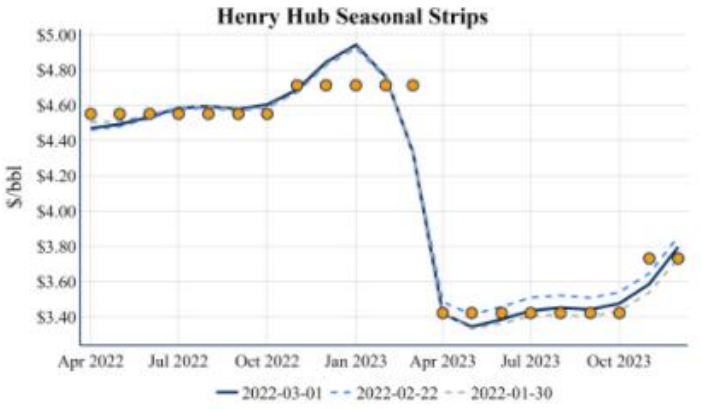
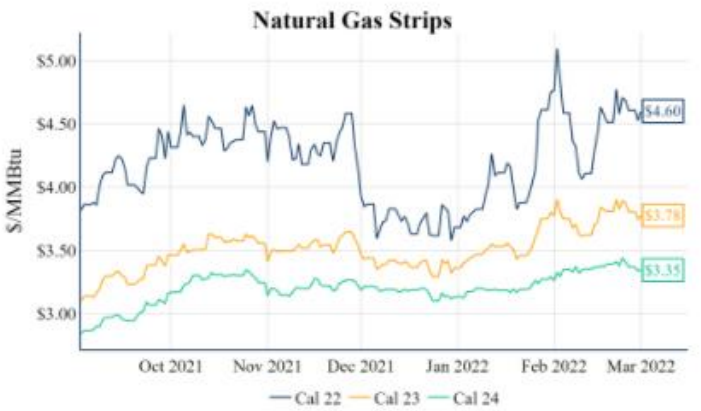
Gas and Oil Prices 1 March 2022







Swap Pricing	Bal 22	Cal 23	Cal 24	Cal 25
NYMEX WTI	$89.08	$77.95	$72.36	$68.90
ICE Brent	$92.59	$82.46	$77.21	$74.21
LLS	$91.11	$79.45	$72.05	$66.24
Mars	$87.56	$76.24	$70.64	$67.19
Western Canadian Crude (WCC)	$77.56	$64.43	$56.57	$52.93
West TX Sour (WTS)	$88.69	$77.55	$71.96	$68.51

Swap Pricing	Month 1	Summer 22	Winter 22/23	Summer 23	Winter 23/24
Henry Hub Fixed	$4.472	$4.553	$4.711	$3.423	$3.730
Eastern Gas South	-$0.721	-$1.157	-$0.871	-$1.021	-$0.733
Waha	-$0.689	-$0.870	-$0.970	-$1.996	-$1.298
TETCO M3	-$0.610	-$0.981	$1.863	-$0.728	$1.531
Houston Ship Channel	-$0.183	-$0.173	-$0.033	-$0.177	-$0.031
Columbia Gulf Mainline	-$0.340	-$0.451	-$0.275	-$0.292	-$0.247
Panhandle East	-$0.472	-$0.544	-$0.039	-$0.679	-$0.127
NGPL MidCon	-$0.438	-$0.496	-$0.078	-$0.645	-$0.181
SoCal	-$0.382	$0.108	$0.789	-$0.069	$0.638
AECO	-$0.975	-$1.136	-$0.997	-$0.977	-$0.873
Chicago City-Gates	-$0.154	-$0.272	$0.219	-$0.282	$0.203