



Longreach Energy Holdings LLC

FIRM INFORMATION

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1. Market and Macro Industry Commentary

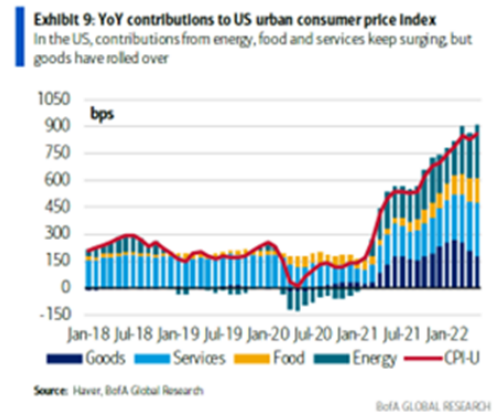
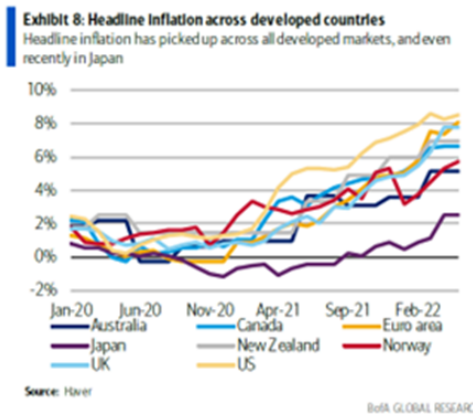
General Market Commentary

US Henry Hub gas prices fell in June, the prompt contract declined from \$8.18/mmbtu at close of business on 30 May to \$5.42/mmbtu at close on 30 June. Calendar 2022 prices fell from \$8.18/mmbtu to \$5.66/mmbtu over the same period. The correction was instigated by a fire at the Freeport LNG export facility that has taken 2.1bcf/d of LNG export capacity offline until October.

Prompted by recession fears, oil prices also fell, with the prompt opening June at \$114.67/bbl and closing at \$105.76/bbl. The calendar 2022 price fell from \$107.65/bbl to \$99.76/bbl.

Headline inflation is increasing across all developed markets (LHS Figure 1) and central banks across the world are increasing rates in response. In the US, increases in consumer price inflation are being driven by contributions from food and energy (RHS Figure 1).

Figure 1: International Headline Inflation and US CPI (Source: BofA)



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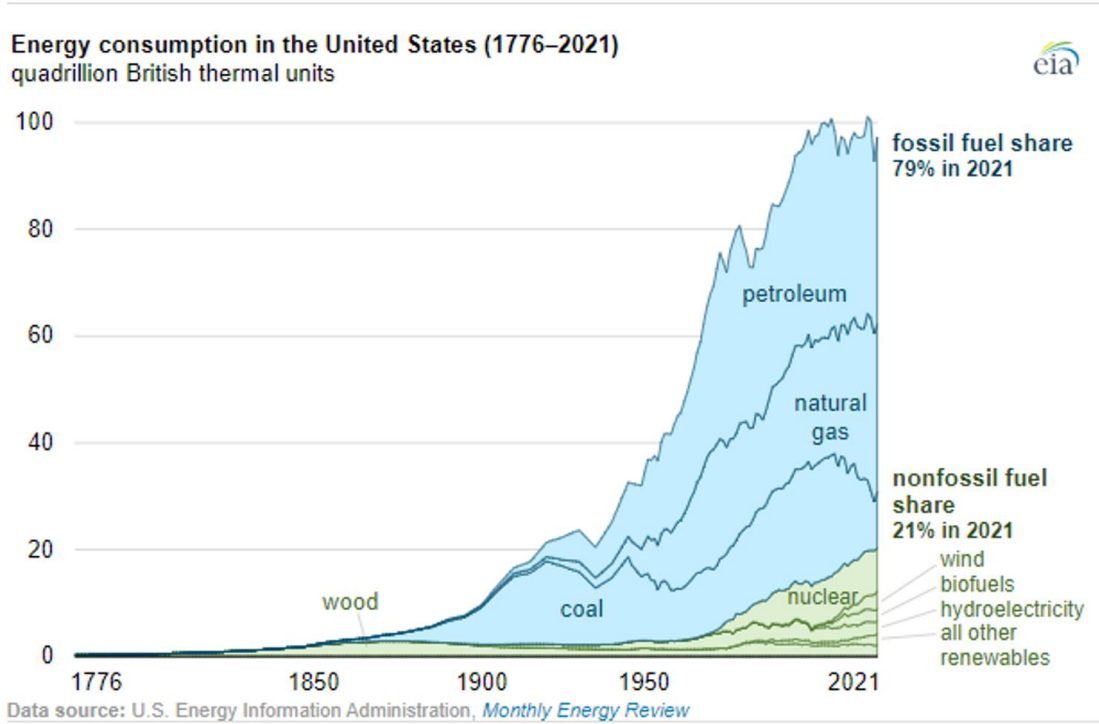
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The impact of inflation is also being felt by gas and oil producers. Goldman Sachs reports that realised public company data from 1Q22 show operating cash costs increasing by 20% since January. This is the natural order of the sector, with higher prices allowing service companies to charge more for their products.

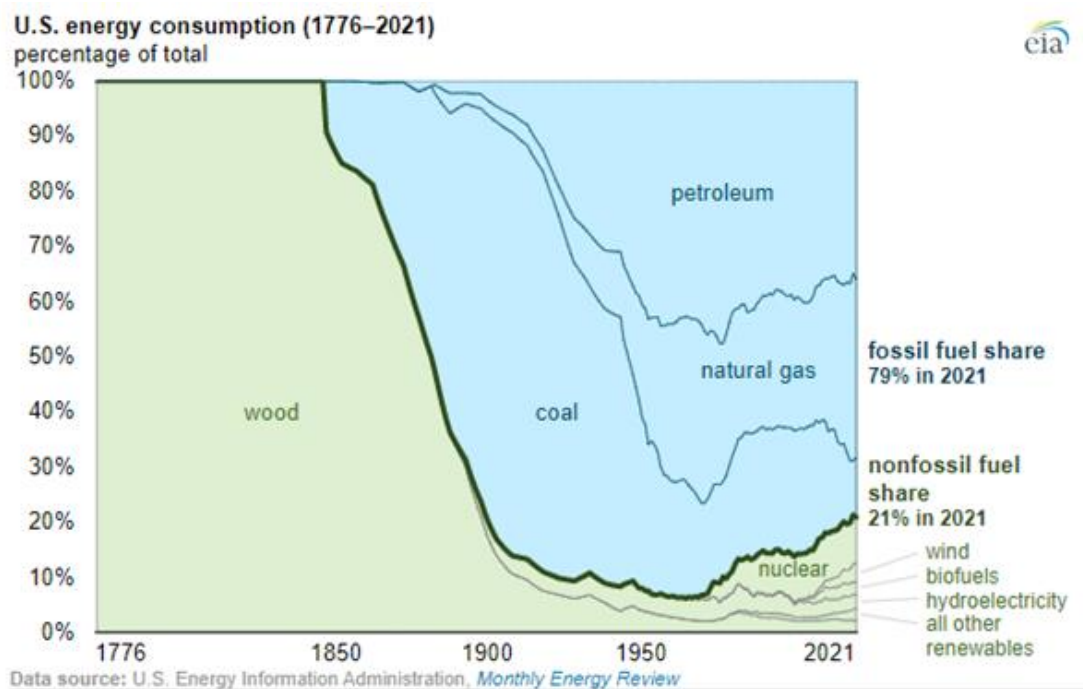
Data from the EIA shows that fossil fuel sources accounted for 79% of US primary energy consumption in 2021 (Figure 2).

Figure 2: Energy Consumption in the United States 1776-2021 (Source: EIA)



Total primary energy consumption in the US in 2021 was 97 quadrillion British thermal units (quads). Petroleum has been the most-consumed primary energy source in the US since surpassing coal in 1950. In 2021 the US consumed 35 quads of petroleum, 31.3 quads of natural gas and 10.5 quads of coal. Renewable energy provided 12.2 quads and nuclear energy 8.2 quads (Figure 3).

Figure 3: Percentage of Total Energy Consumption in the United States 1776-2021 (Source: EIA)



The latest Baker Hughes rig count data follows. In June US total rigs increased by 25 from 727 to 752. Oil rigs increased by 23 from 574 to 597 while gas rigs increased by 2 from 151 to 153.

Baker Hughes rig count



Rotary Rig Count

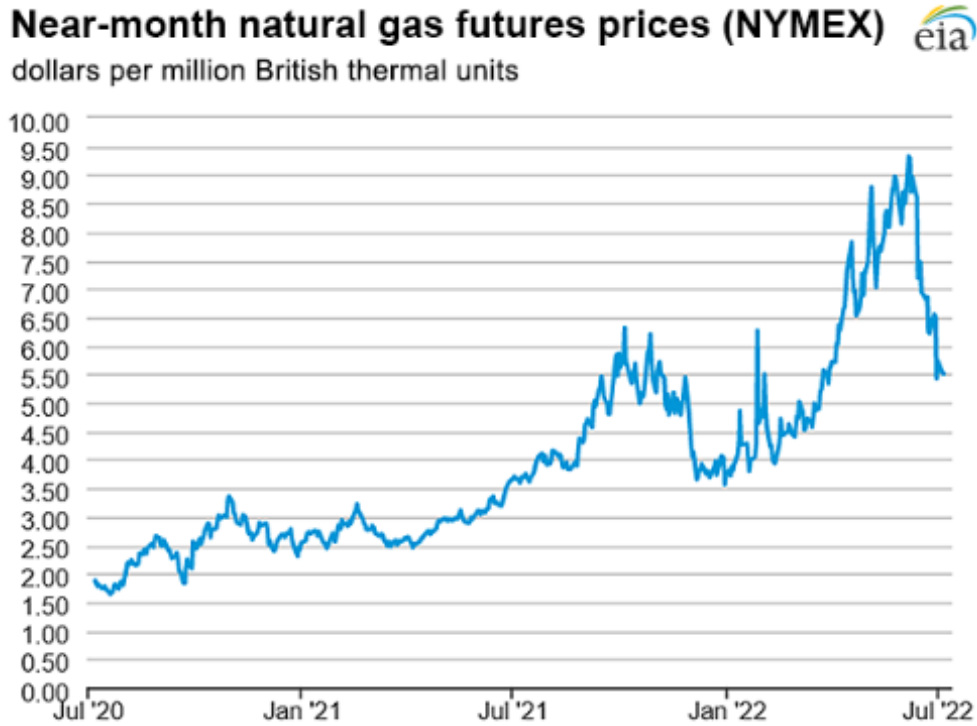
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Location	Week	+/-	Week Ago	+/-	Year Ago
Land	731	1	730	270	461
Inland Waters	4	1	3	3	1
Offshore	17	0	17	0	17
United States Total	752	2	750	273	479
Gulf Of Mexico	16	0	16	-1	17
Canada	175	9	166	38	137
North America	927	11	916	311	616
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	597	2	595	219	378
Gas	153	0	153	52	101
Miscellaneous	2	0	2	2	0
Directional	43	0	43	12	31
Horizontal	682	0	682	249	433
Vertical	27	2	25	12	15

Gas Market

On 9 June a fire at the 2.1 bcf/d Freeport LNG export facility sent Henry Hub prompt \$1/mmbtu lower on the day. Declines continued after it was announced that repairs would take until October to complete (Figure 4). \$5.50/mmbtu remains a very strong price for US gas producers.

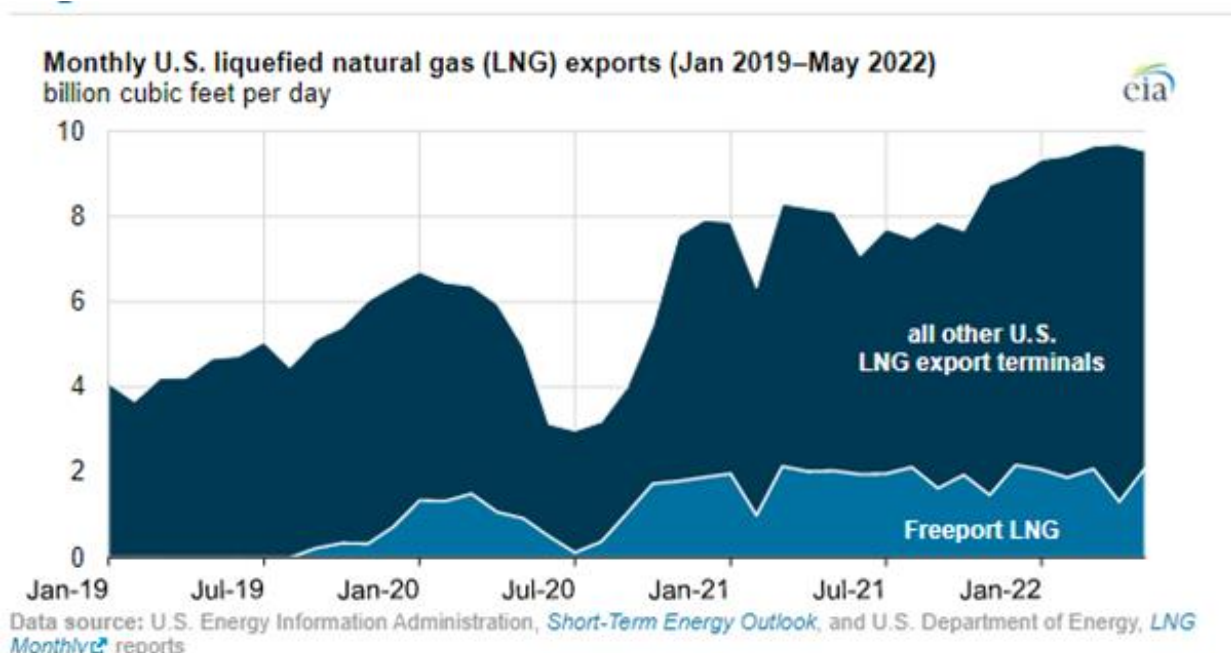
Figure 4: Near Month Henry Hub Futures (Source: EIA)



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

Freeport LNG represents 17% of total US LNG export capacity (Figure 5).

Figure 5: Monthly US LNG Exports (Source: EIA)



There are currently seven LNG export facilities operating in the US, the largest of which is Sabine Pass with peak capacity of approximately 5bcf/d (LHS Figure 6). While the loss of 2bcf/d of demand is material, it has been offset by higher-than-expected US gas demand for power since early May (RHS Figure 6).

Figure 6: US LNG Export Facilities and US Gas Demand for Power (Source: various via GS)

Exhibit 1: Freeport feedgas demand had averaged 2 Bcf/d this month prior to this outage
US LNG feedgas demand by facility, Bcf/d

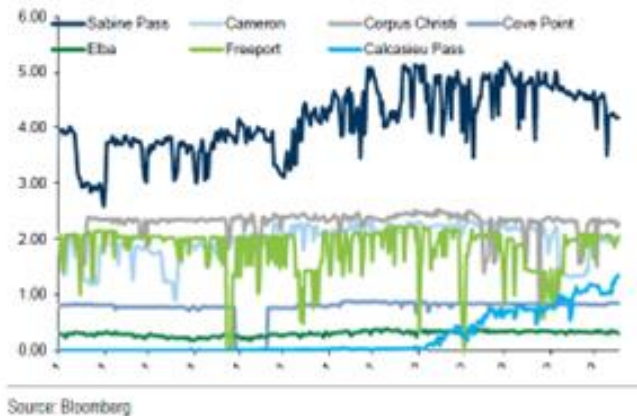
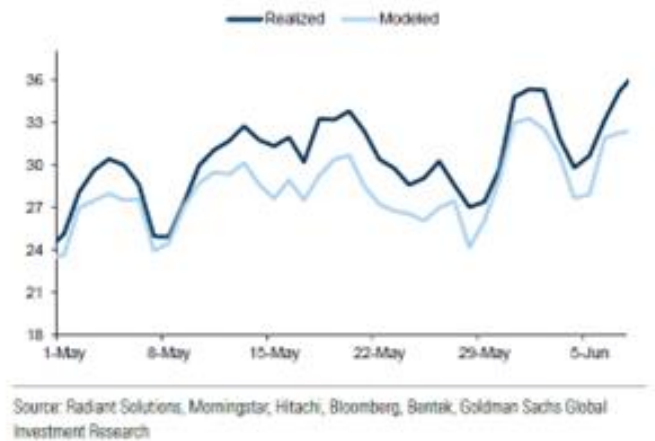


Exhibit 2: US gas demand for power has consistently surpassed our expectations since early May
US realized daily power demand for gas vs ex-post modeled, Bcf/d



Freeport LNG loadings have mostly gone to Europe since last October (LHS Figure 7). The loss of this supply, together with ongoing impact of sanctions on Russia, have driven global spot LNG prices higher. In the week from 29 June to 6 July, day-ahead gas prices at the Title Transfer Facility (TTF) in Netherlands averaged \$47.99/mmbtu (an increase of \$7.62/mmbtu on prior week), while average swap prices for LNG cargoes in East Asia averaged \$38.43/mmbtu. In the same week last year (week ending 7 July 2021), the prices in East Asia and at TTF were \$13.17/mmbtu and \$12.27/mmbtu respectively.

US demand for gas fired power has been increased by tightness in the coal market. The gas price required to incentivise max substitution of gas for Appalachian Coal has now reached \$12/mmbtu as global coal prices have rallied (RHS Figure 7).

Figure 7: Freeport LNG Cargoes and Coal vs Gas (Source: various, via GS)

Exhibit 3: Freeport LNG loadings have mostly headed to Europe since last winter
Freeport monthly LNG exports by destination, mtpa

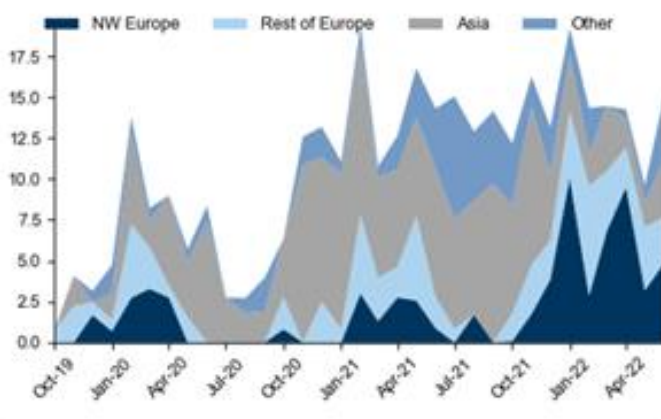
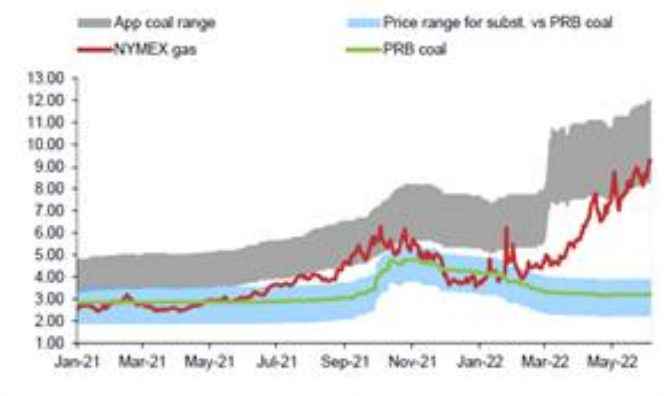


Exhibit 4: The US gas price required to incentivise max App coal substitution has now reached \$12/mmBtu, as App coal prices rallied following international coal
NYMEX gas prices vs the estimated price levels that trigger substitution vs PRB and Appalachia coal, \$/mmBtu



Global forward LNG prices, like spot, continue to provide very strong margins for US LNG exporters (Figure 8) which incentivises continued growth in US LNG export capacity.

Figure 8: US LNG Export Margins (Source: various, via GS)

Exhibit 19: The US export arb remains wide open throughout the curve, which we expect to continue
Calc. on a var cost basis by delivery region, \$/mmBtu



Source: ICE, Goldman Sachs Global Investment Research

Exhibit 20: Global gas prices continue to cover long term US LNG contracts all-in costs, incentivizing the signing of incremental long-term agreements
TTF and JKM compared to US LNG export costs (variable and all-in), \$/mmBtu



Source: Platts, ICE, CME, Goldman Sachs Global Investment Research

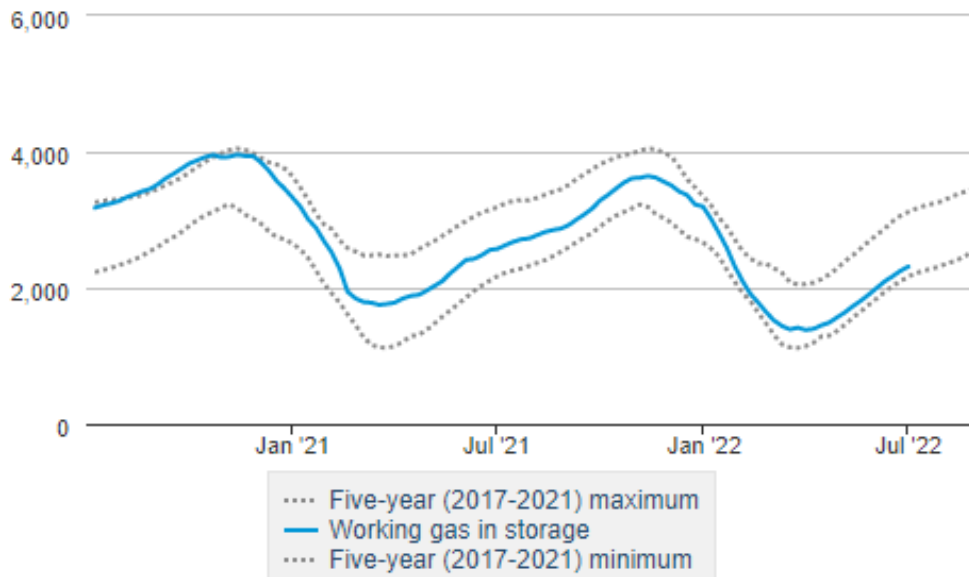
Notwithstanding the loss of Freeport demand, the supply and demand balance remains tight. Working gas inventories are still at the lower end of the 5-year range (Figure 9).

Figure 9: Working Gas in Storage (Source: EIA)

Working natural gas in underground storage



billion cubic feet



Data source: U.S. Energy Information Administration Form EIA-912, Weekly Underground Natural Gas Storage Report

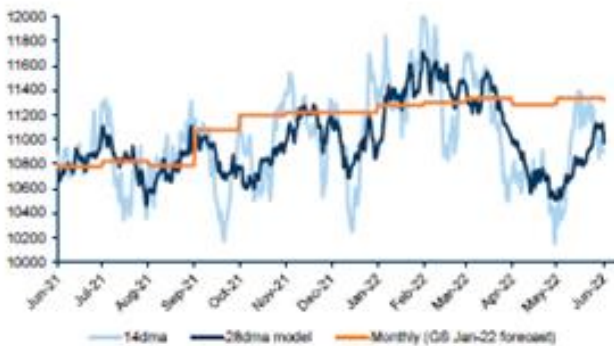
Oil Market

Oil prices declined modestly in June as the market sought a balance between an enduring structural supply deficit and concerns that a widespread global recession could materially decrease demand. Supply of oil from Russia and the impact of zero-Covid on Chinese demand are the largest near-term factors in the oil market.

Following Russia's invasion of the Ukraine its oil production initially fell c.1mmbbl/d but then recovered (LHS Figure 10). Goldman expects Russian oil production to gradually decline until early 2023 and then increase (RHS Figure 10).

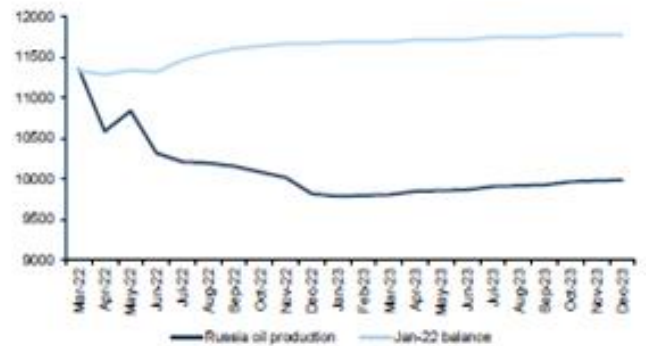
Figure 10: Russian Oil Production (Source: various, via GS)

Exhibit 3: Russian production initially fell c.1mb/d but has since recovered
GS high-frequency crude/condensate production model (kb/d) vs. pre-war GS expectations



Source: Kpler, IIR, IEA, Goldman Sachs Global Investment Research

Exhibit 4: We expect Russian production to gradually decline through early next year before a modest increase over 2023
GS Russia total oil production forecast vs. Jan-22 forecast (kb/d)

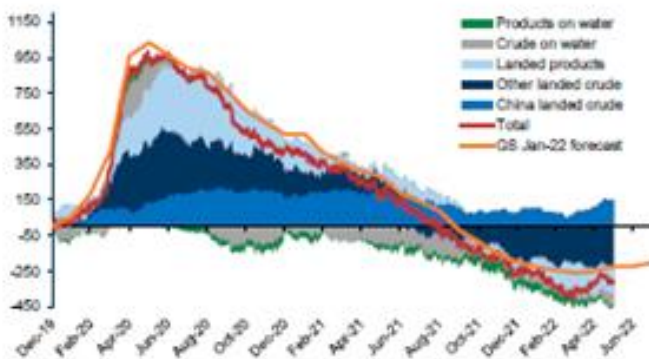


Source: EA, Kpler, Goldman Sachs Global Investment Research

Despite China's lockdowns, global oil inventories remain depressed (LHS Figure 11). Disruptions, maintenance, and project delays are contributing towards lower production despite higher prices (RHS Figure 11).

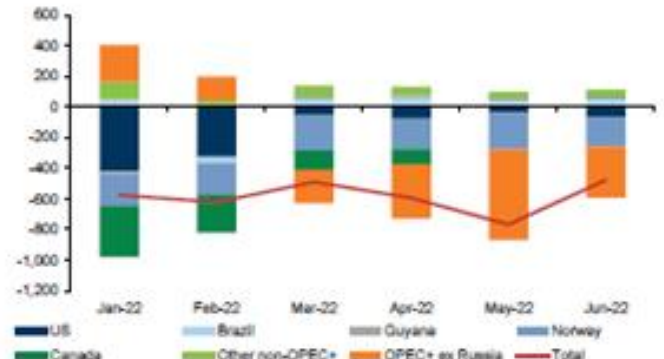
Figure 11: Global Inventory Changes vs Expectation and Supply Revisions (Source: various, via GS)

Exhibit 7: Despite China's lockdowns, global oil inventories continue to surprise to the downside YTD
Global high-frequency inventory tracking vs. Dec-19 compared to our Jan-22 GS supply-demand expectations (mb)



Source: Kpler, EA, JODI, EIA, PJK ARA, PAJ, IE Singapore, Fujairah, Oilchem, Goldman Sachs Global Investment Research

Exhibit 8: Global supply continues to disappoint despite higher prices due to disruptions, maintenance and project delays
Supply revisions ex Russia vs Jan-22 full monthly balances (kb/d)



Source: EA, EIA, Woodmac, Goldman Sachs Global Investment Research

Mobility remains robust across most regions despite higher prices (LHS Figure 12). Goldman expect the continued recovery in international travel to take jet fuel demand above 6mm bbl/d in August (RHS Figure 12).

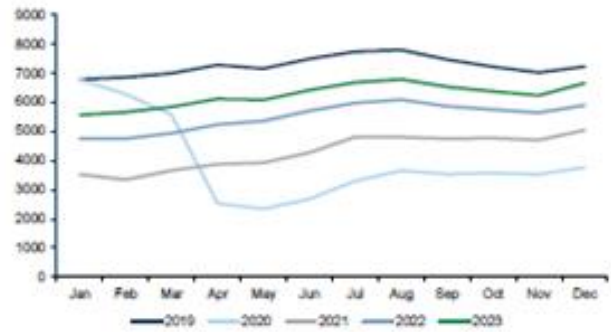
Figure 12: Passenger Vehicle Demand vs 2019 and Global Jet Fuel Demand (Source: various, via GS)

Exhibit 14: Mobility remains robust across most regions despite higher prices
 Passenger vehicle demand vs. 2019 levels by region (seasonally adjusted)



Source: Google COVID-19 Community Mobility Reports, Apple, IEA, JODI, Goldman Sachs Global Investment Research, Google LLC "Google COVID-19 Community Mobility Reports"; <https://www.google.com/covid19/mobility/> Accessed: 6/2/2022

Exhibit 15: We expect the continued recovery in international travel to take jet fuel demand above 6 mb/d in August
 Global jet fuel demand model and forecast (mb/d)



Source: OAG, IEA, JODI, Goldman Sachs Global Investment Research

Non-US supply remains constrained. International rig-counts have not responded to increased Brent prices (LHS Figure 13). Outside OPEC there has been a modest increase in rig counts however production volumes are small (RHS Figure 13).

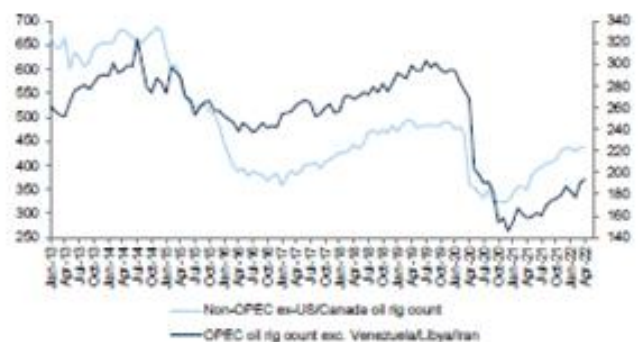
Figure 13: Non-US and Canada Rig Counts (Source: Baker Hughes, GS)

Exhibit 38: The supply recovery is absent among non-short cycle producers
 Rig counts (ex US/CAD) indexed to 2016 average (lhs) vs Brent prices (USD/bbl, rhs)



Source: Baker Hughes, Goldman Sachs Global Investment Research

Exhibit 39: While short-cycle drilling has recovered outside of North America, it represents very little additional volume
 Non-OPEC ex US/CAD (lhs) and OPEC ex exempt (rhs) rig counts



Source: Baker Hughes, Goldman Sachs Global Investment Research

Drilling activity in the US has continued to increase in recent months, with producers gradually deploying more rigs (LHS Figure 14 and Figure 15). Completion activity has however lagged, reflecting a shortage in completion capacity, both pressure pumping equipment and trained frac crews (RHS Figure 14) and Figure 16 (next page). While generic services such as steel and unskilled labour can be outbid from other industries such as construction, this shortage of dedicated oilfield services will take time and higher prices to overcome.

Figure 14: Permian Rigs and Wells (Source: various via GS)

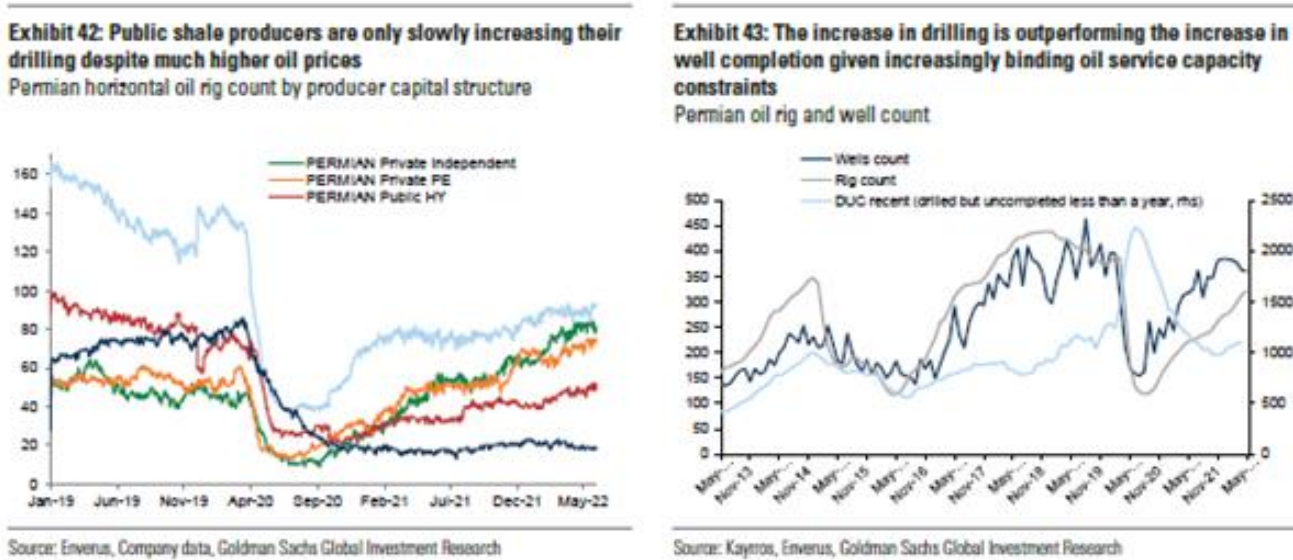


Figure 15: Horizontal Oil Rig Count by Basin (Source: Enervus via GS)

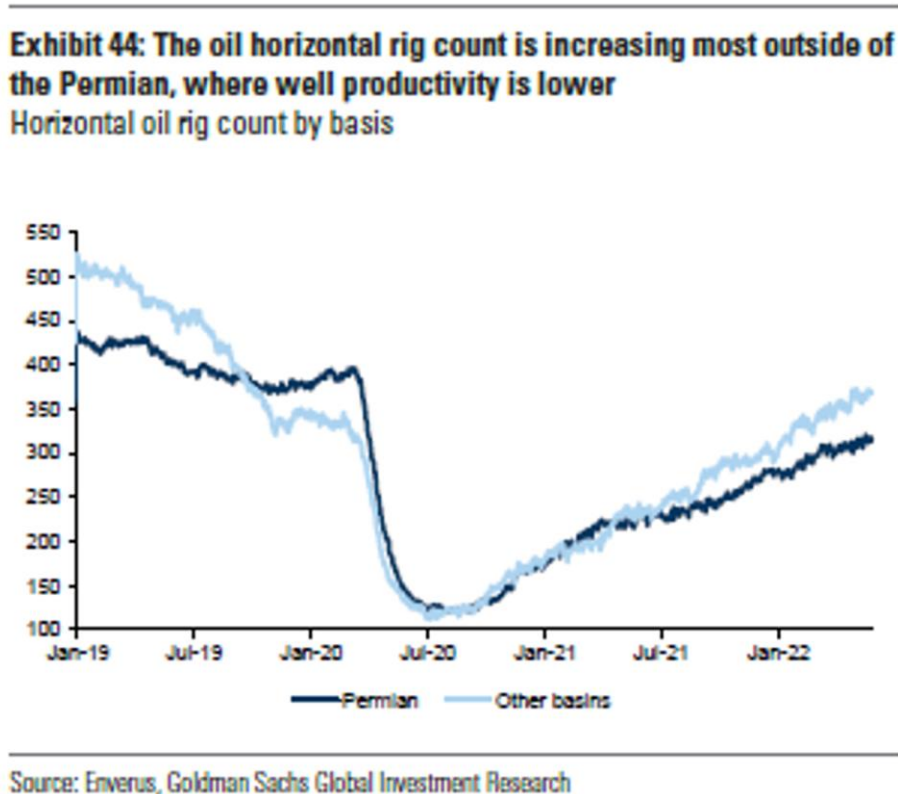
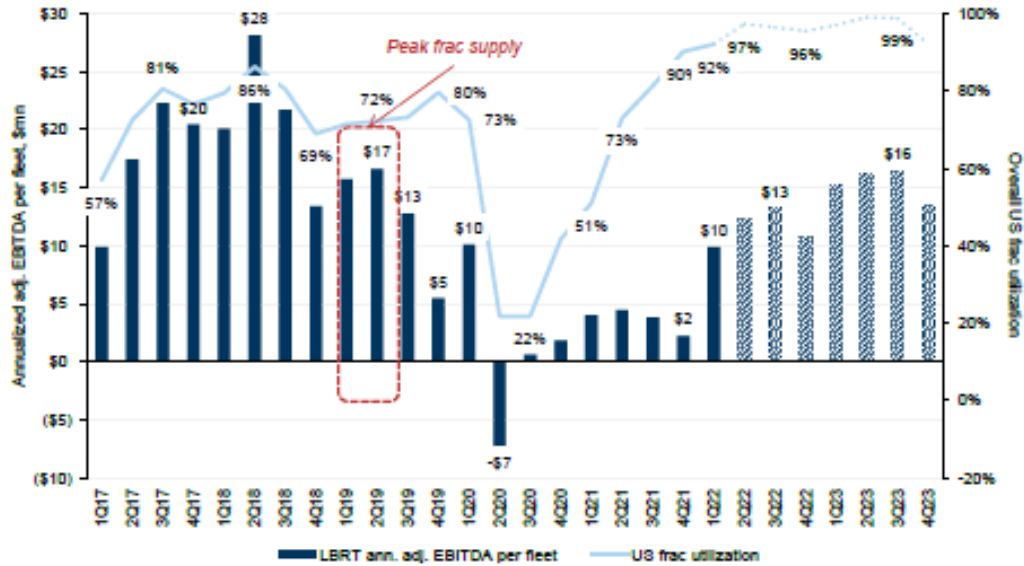


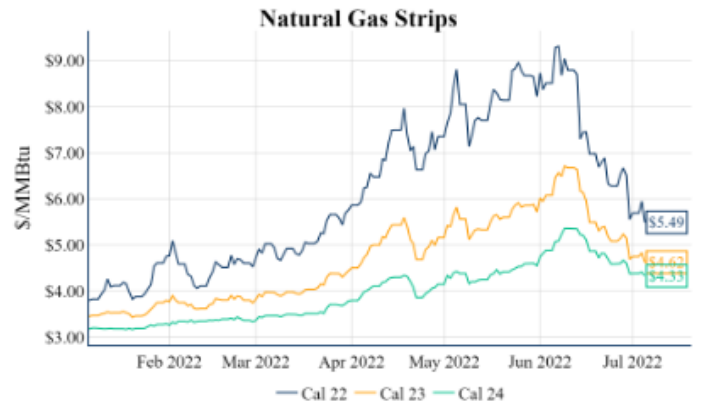
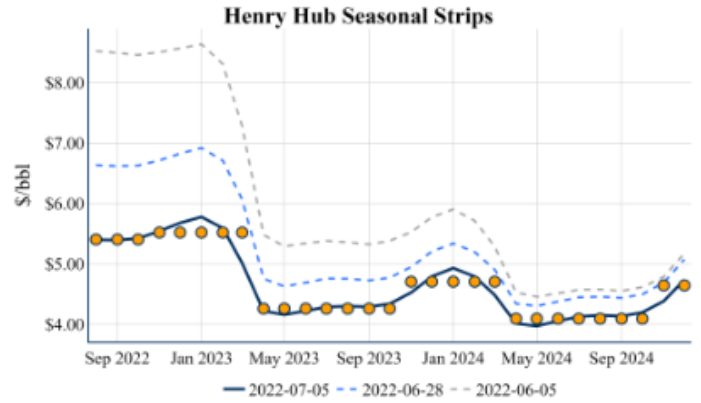
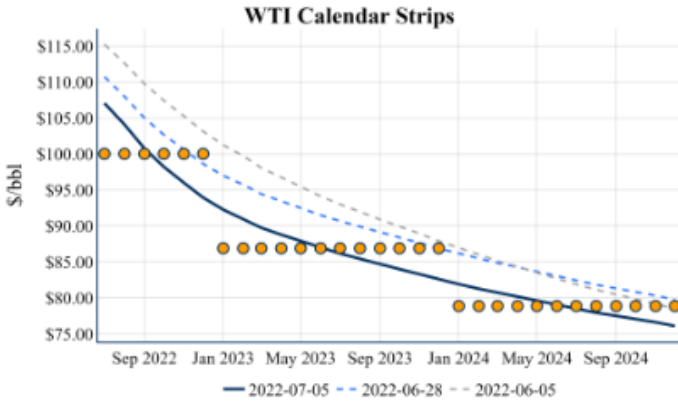
Figure 16: Frac Crew Profitability and Frac Utilisation (Source: various via GS)

Exhibit 46: Frac utilization is expected to reach and stay at record high levels, with projected profitability in the service sector still not sufficient to incentivize capacity addition



Source: EIA, Company data, Goldman Sachs Global Investment Research, Rystad, Primary Vision

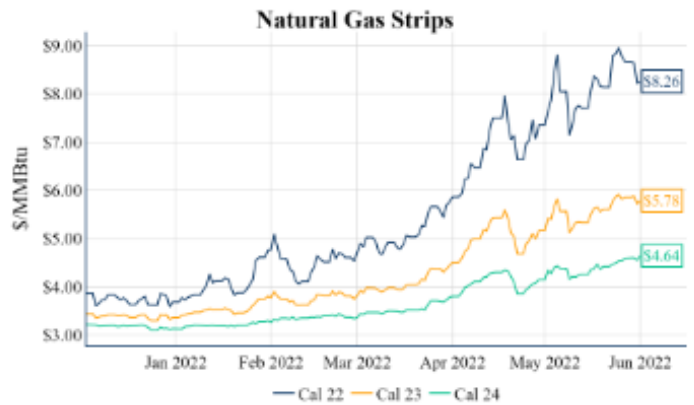
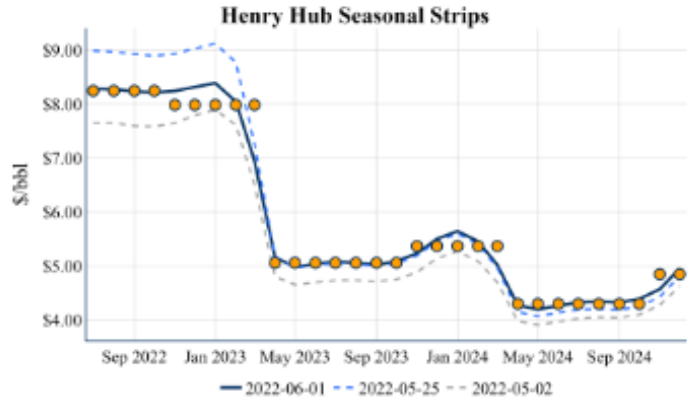
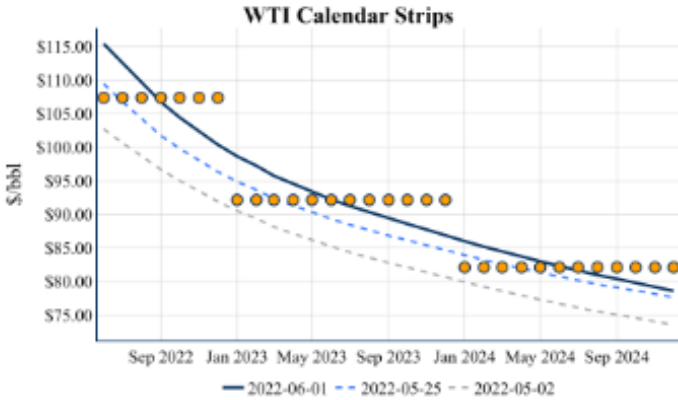
Gas and Oil Prices 5 July 2022



Swap Pricing	Bal 22	Cal 23	Cal 24	Cal 25
NYMEX WTI	\$100.02	\$86.90	\$78.88	\$73.33
ICE Brent	\$103.67	\$91.59	\$84.12	\$78.90
LLS	\$102.20	\$89.00	\$80.71	\$74.27
Mars	\$96.75	\$85.19	\$77.58	\$72.05
Western Canadian Crude (WCC)	\$81.59	\$70.75	\$63.10	\$58.25
West TX Sour (WTS)	\$100.65	\$86.95	\$78.57	\$73.04

Swap Pricing	Month 1	Summer 22	Winter 22/23	Summer 23	Winter 23/24
Henry Hub Fixed	\$5.397	\$5.403	\$5.518	\$4.261	\$4.701
Eastern Gas South	-\$0.656	-\$1.115	-\$0.830	-\$1.387	-\$0.862
Waha	-\$0.674	-\$0.967	-\$1.215	-\$2.082	-\$1.333
TETCO M3	-\$0.502	-\$1.021	\$4.379	-\$1.087	\$2.659
Houston Ship Channel	-\$0.199	-\$0.249	\$0.007	-\$0.174	\$0.063
Columbia Gulf Mainline	-\$0.497	-\$0.638	-\$0.337	-\$0.391	-\$0.241
Panhandle East	-\$0.468	-\$0.557	\$0.148	-\$0.623	\$0.006
NGPL MidCon	-\$0.401	-\$0.497	\$0.062	-\$0.541	-\$0.060
SoCal	\$0.897	\$0.360	\$0.944	\$0.061	\$0.818
AECO	-\$2.068	-\$1.886	-\$1.450	-\$1.031	-\$1.079
Chicago City-Gates	-\$0.195	-\$0.244	\$0.506	-\$0.196	\$0.297

Gas and Oil Prices 1 June 2022



Swap Pricing	Bal 22	Cal 23	Cal 24	Cal 25
NYMEX WTI	\$107.38	\$92.16	\$82.11	\$75.48
JCE Brent	\$109.71	\$95.98	\$86.20	\$79.92
LLS	\$109.06	\$95.12	\$84.30	\$76.87
Mars	\$104.68	\$90.79	\$81.12	\$74.44
Western Canadian Crude (WCC)	\$89.54	\$76.32	\$66.33	\$60.38
West TX Sour (WTS)	\$106.72	\$91.64	\$81.56	\$74.93

Swap Pricing	Month 1	Summer 22	Winter 22/23	Summer 23	Winter 23/24
Henry Hub Fixed	\$8.281	\$8.251	\$7.990	\$5.059	\$5.368
Eastern Gas South	-\$0.941	-\$1.226	-\$0.873	-\$1.381	-\$0.893
Waha	-\$0.827	-\$1.101	-\$1.411	-\$2.048	-\$1.090
TETCO M3	-\$0.516	-\$0.947	\$4.629	-\$1.193	\$2.834
Houston Ship Channel	-\$0.086	-\$0.097	\$0.150	-\$0.170	\$0.067
Columbia Gulf/Mainline	-\$0.556	-\$0.666	-\$0.284	-\$0.354	-\$0.226
Panhandle East	-\$0.521	-\$0.516	\$0.160	-\$0.583	-\$0.020
NGPL MidCon	-\$0.410	-\$0.440	\$0.079	-\$0.525	-\$0.081
SoCal	\$1.215	\$0.860	\$1.104	\$0.128	\$0.853
AECO	-\$3.168	-\$3.199	-\$2.384	-\$1.460	-\$1.224
Chicago City-Gates	-\$0.203	-\$0.238	\$0.513	-\$0.235	\$0.317



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