



Longreach Energy Holdings LLC

FIRM INFORMATION

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1.0 Market and Portfolio Commentary

1.1 Macro Industry Commentary

US Henry Hub prompt gas prices fell significantly in February. The prompt was \$2.10/mmbtu at close on 31 January, declining further to finish at \$1.86/mmbtu at close on 29 February. Intra-month lows were under \$1.50/mmbtu. At these levels we expect US natural gas production to decline as producers shut-in production to await higher prices. Calendar 2024 was relatively stable, beginning February at \$2.58/mmbtu and closing at \$2.55/mmbtu.

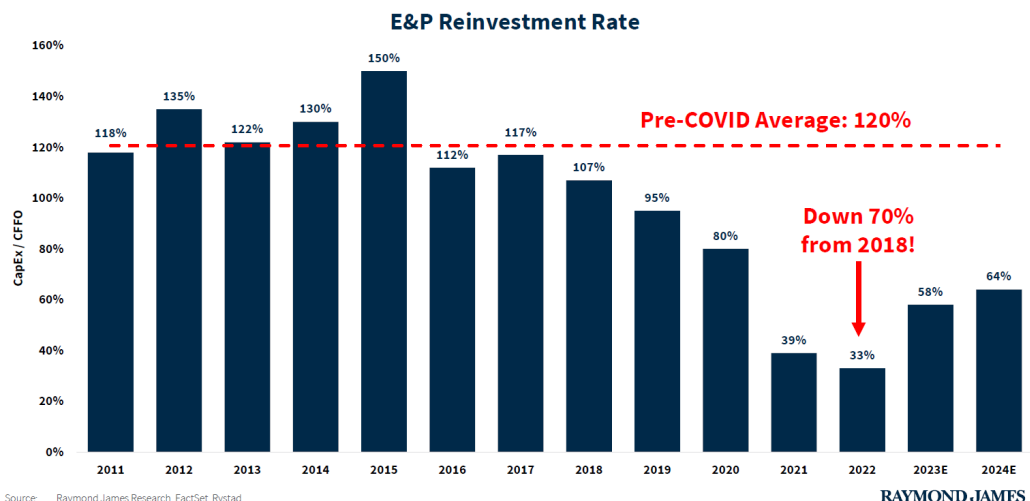
Oil prices rose. The prompt began February at \$75.85/bbl and closed the month at \$78.26/bbl. Calendar 2024 started the month at \$74.54/bbl and closed at \$75.35/bbl.

Ahead of the annual North American Prospect Exposition (NAPE) in Houston, Raymond James presented a US investment bank its overview of the global oil and gas market. Slides specifically relevant to the oil sector and the gas sector are provided in each section while general industry slides of interest are shown below.

Recent years have seen a large drop in US exploration and production (E&P) investment (Figure 1). E&P spending in 2022 was 70% less than that in 2018. Lower investment will, over the medium term, mean lower supply.

Figure 1: US E&P Reinvestment Rate (Source: Raymond James)

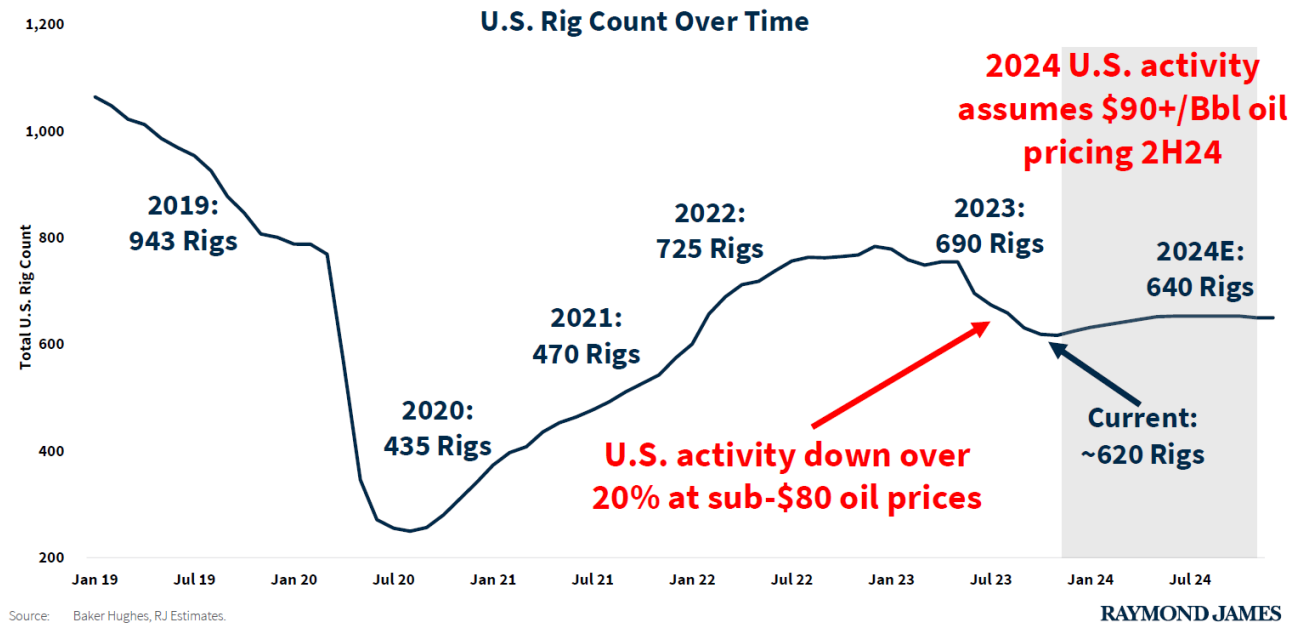
U.S. E&P Reinvestment Way Down!



Consistent with lower investment, drilling activity is falling (Figure 2)

Figure 2: US Rig Count (Source: Raymond James)

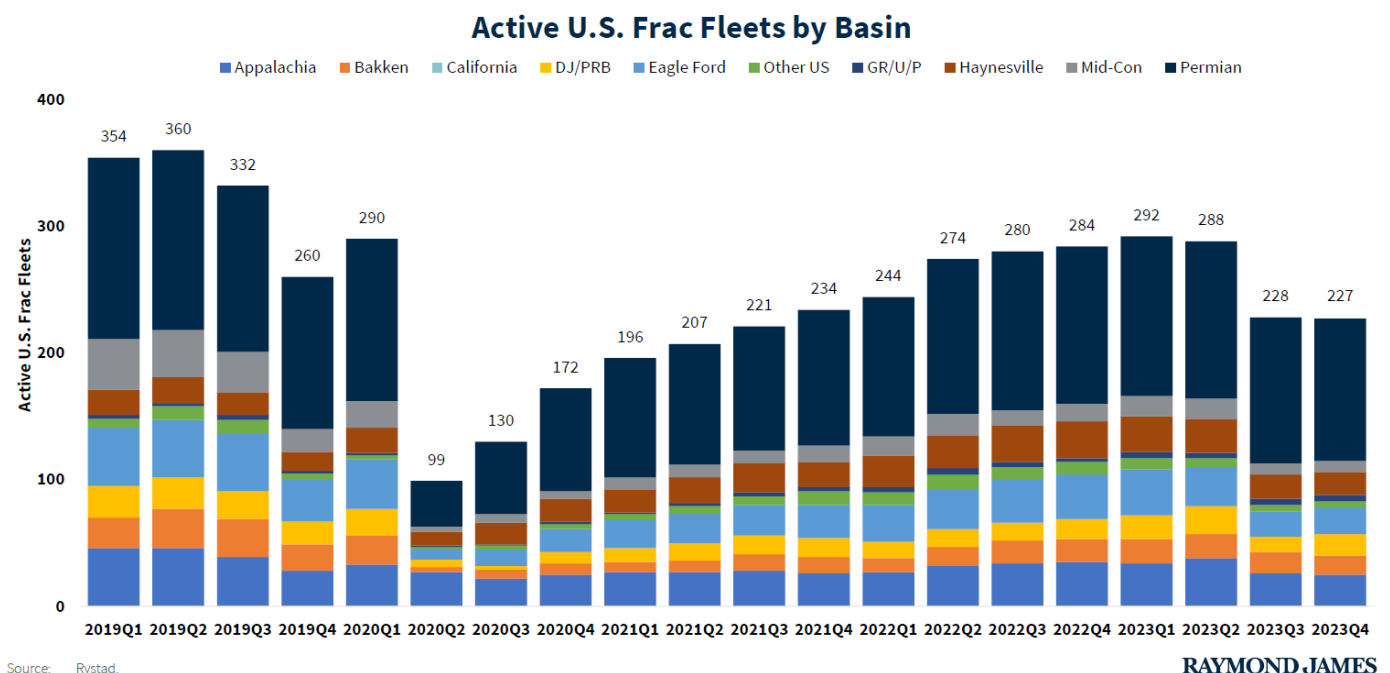
U.S. Drilling Activity Down 20% From 2022



And so are well completions (Fracs) (Figure 3).

Figure 3: Active US Frac Fleets by Basin (Source: Raymond James)

Frac Activity Also Down About 20%

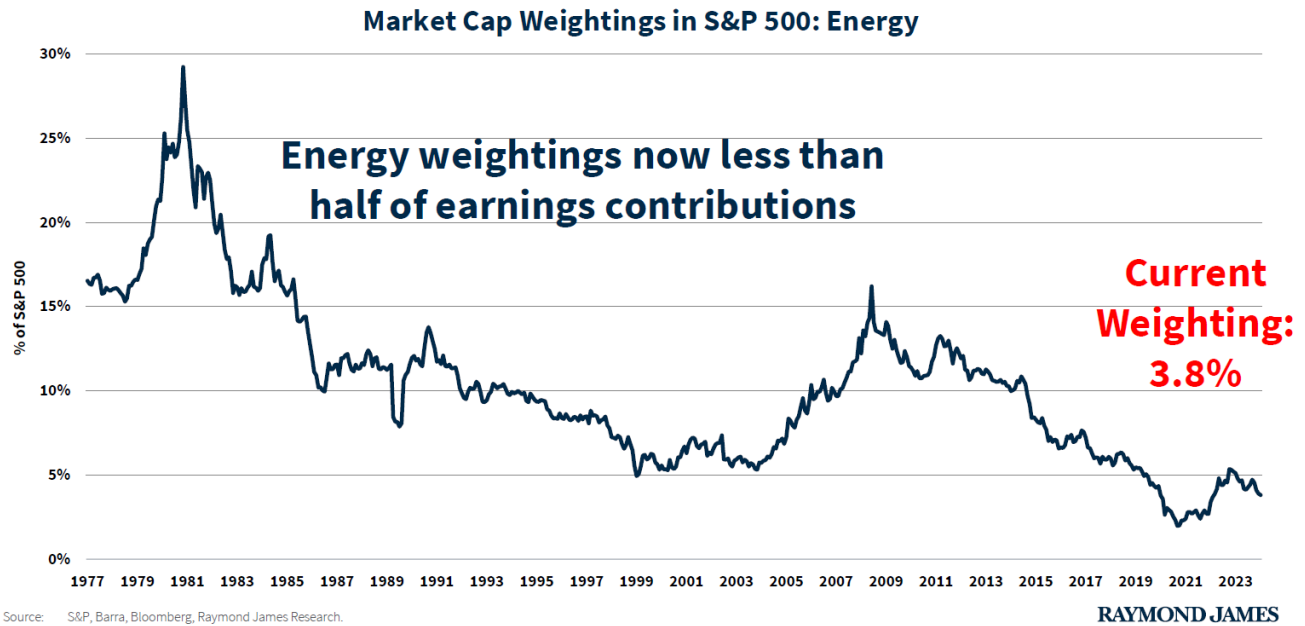




The energy sector provides approximately 8% of earnings in the S&P 500 but the sector's current market cap weighting is only 3.8%.

Figure 4: Energy Sector Market Cap Weightings in the S&P 500 (Source: Raymond James)

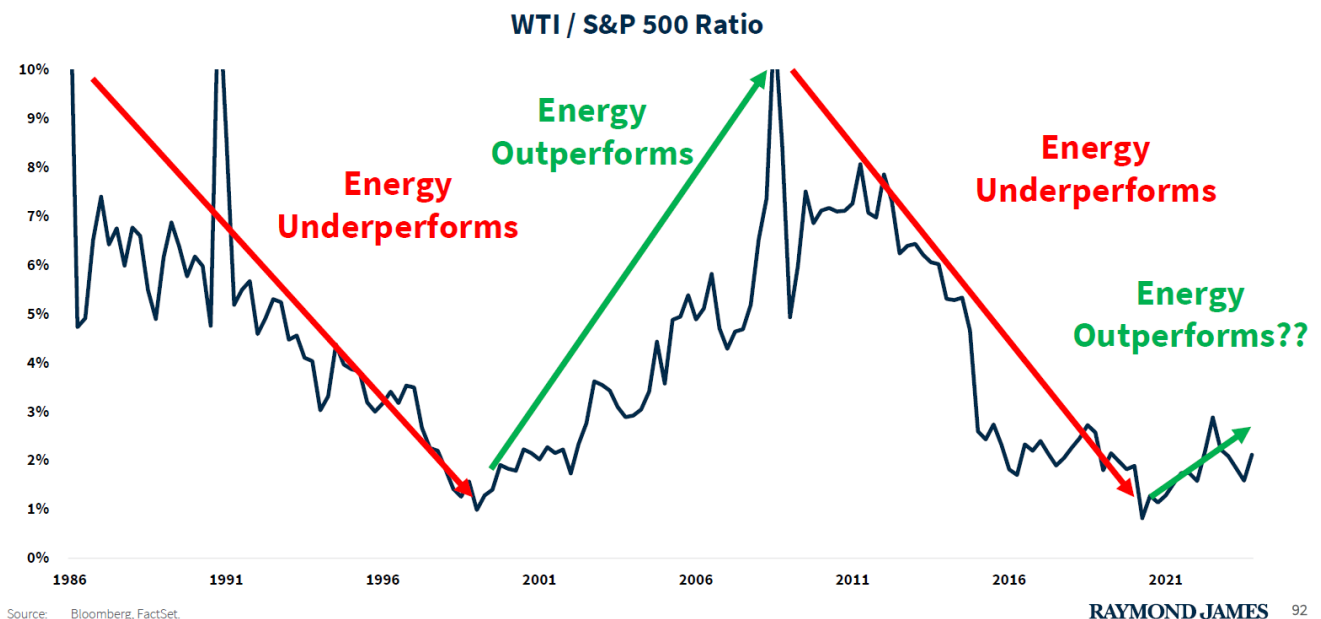
Energy Still Underweight in S&P




The cyclical case for investment in US energy looks strong (Figure 5).

Figure 5: Ratio of WTI / S&P 500 (Source: Raymond James)

Long-Term Up-Cycle Just Beginning



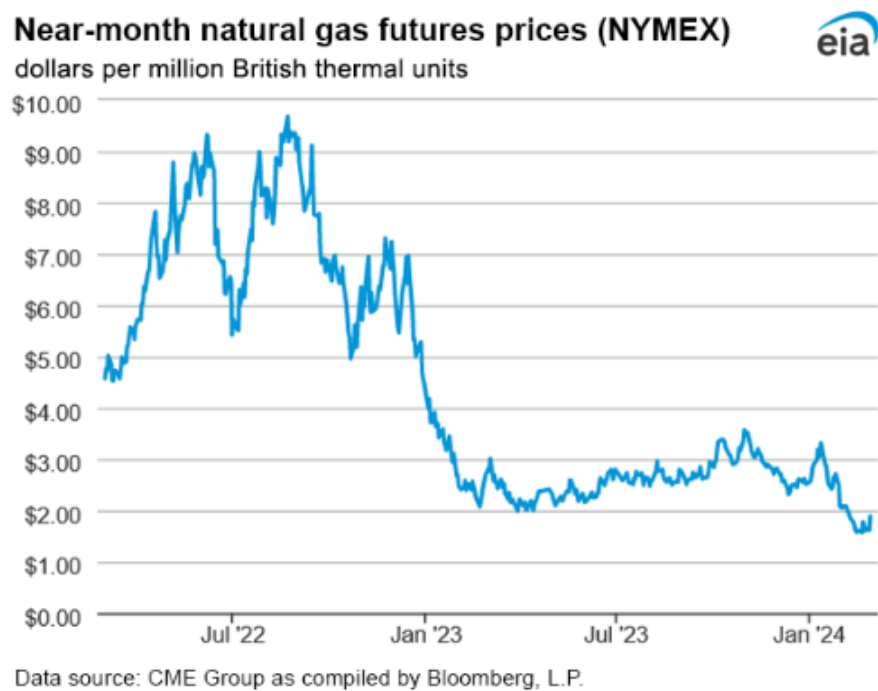
The latest Baker Hughes rig count data follows. In February US total land rigs rose by 8 from 600 to 608. Total oil rigs rose by 7 from 499 to 506 while gas rigs rose from 117 to 119. Oil and gas rig totals include 21 offshore rigs working in February.

Baker Hughes  NORTH AMERICA Rotary Rig Count					
1/03/2024					
Location	Week	+/-	Week	+/-	YearAgo
Inland Waters	0	0	0	-1	1
Land	608	2	606	-124	732
Offshore	21	1	20	5	16
United States Total	629	3	626	-120	749
Gulf of Mexico	19	1	18	3	16
Canada	231	0	231	-15	246
North America	860	3	857	-135	995
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Gas	119	-1	120	-35	154
Oil	506	3	503	-86	592
Miscellaneous	4	1	3	1	3
Directional	52	2	50	7	45
Horizontal	561	1	560	-129	690
Vertical	16	0	16	2	14

Gas Market

In February, prompt Henry Hub gas futures fell with the continuation of relatively warm weather and high production (Figure 6).

Figure 6: Near Month Henry Hub Futures (Source: EIA)



Highlighting increased gas spot price volatility, after trading above \$15/MMBtu during January, on 20 February 2024 the US benchmark Henry Hub daily natural gas price averaged \$1.50/MMBtu (Figure 7). This is the lowest price in inflation adjusted dollars since at least 1997 (Figure 8).

Figure 7: Inflation Adjusted Daily Henry Hub Spot Price (Source: Refinitiv Eikon, via EIA)

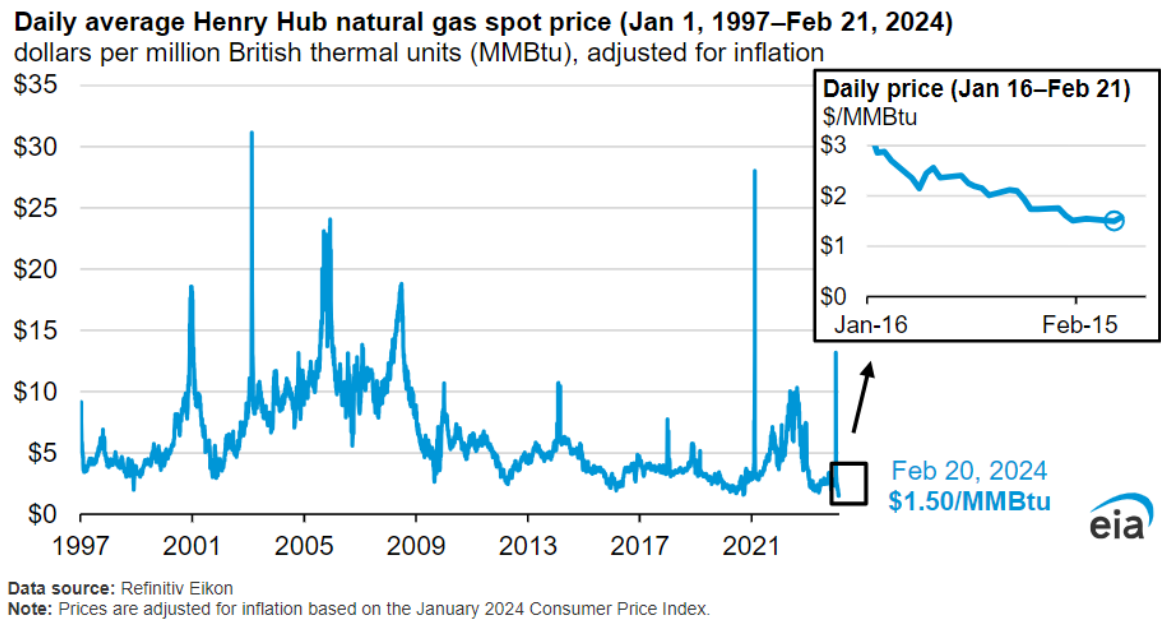
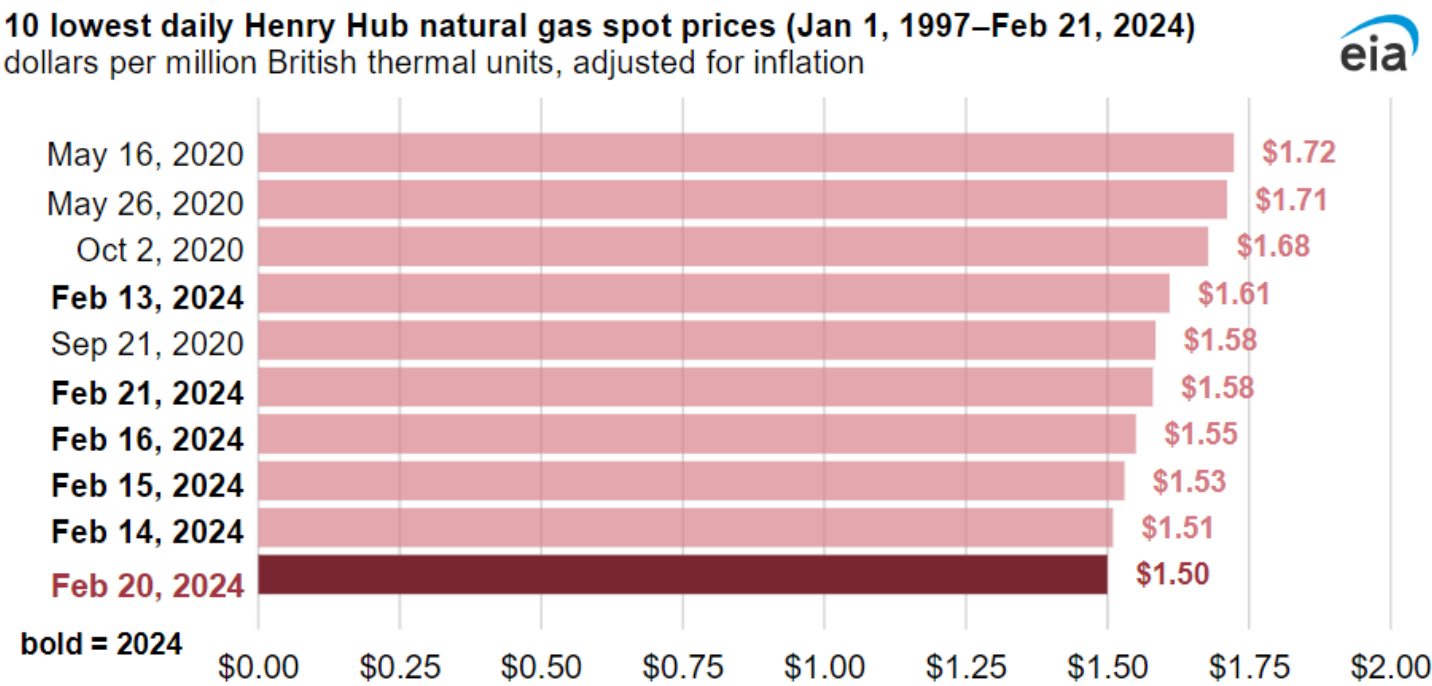


Figure 8: 10 Lowest Inflation Adjusted Daily Henry Hub Spot Prices (Source: Refinitiv Elkon, via EIA)



Data source: Refinitiv Eikon
Note: Prices are adjusted for inflation based on the January 2024 Consumer Price Index.

The driver for low prices has been the combination of high production and relatively weak demand due to less heating demand through a warm winter. US dry natural gas production generally rose through 2023, averaging a record high of 105.7bcfd in December 2023, according to data from S&P Global Commodity Insights. Following a winter-storm induced temporary decline in production in mid-January, production has remained relatively high, averaging over 104.1bcfd since 26 January. On the demand side, natural gas consumption in the US residential and commercial sectors so far this winter heating season (1 Nov to 31 Mar) averaged 35.8bcfd, which is approximately 5% (2bcfd) lower than the five-year (2019-2023) average.

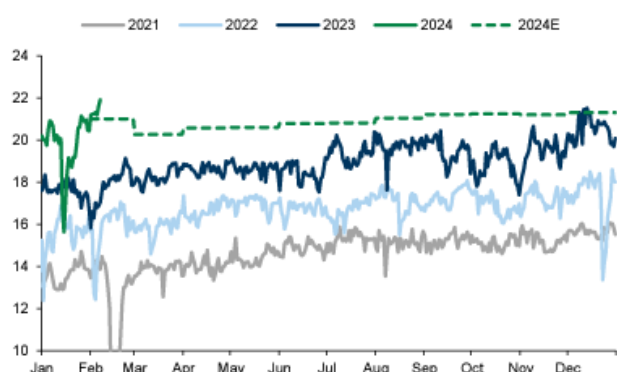
Note that while the spot price has collapsed, the forward market, even for balance of 2024, has been stable. The reason for this is that these low prices are expected to deliver a producer response of a production shut-in and reduced drilling and completion activities reducing supply.

Appalachia is the largest gas producing region with current production approximately 36bcfd. Next is the Permian at about 22bcfd (Figure 9). Appalachian gas production has relatively high volumes of associated natural gas liquids while most of the gas production in the Permian basin is associated with production of oil. Natural gas liquids prices have helped up to provide some revenue protection for Appalachian producers. As a result, only relatively modest production declines are expected this year. Strong oil prices continued to incentivise new drilling irrespective of the gas price and we expect Permian Basin production of both oil and gas to increase modestly over the coming year.

Figure 9: Permian and Appalachian Gas Production, bcfd (Source: WoodMac, via GS)

Exhibit 2: We expect Permian production to rise this year, but current levels are likely overestimated

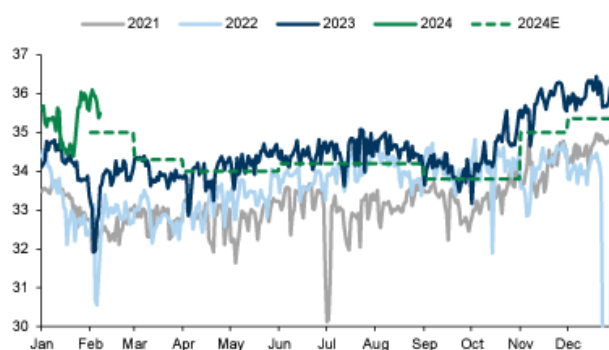
Permian gas production, Bcf/d



Source: Wood Mackenzie, Goldman Sachs Global Investment Research

Exhibit 3: We expect Appalachia production to decline seasonally from current levels

Appalachia gas production



Source: Wood Mackenzie, Goldman Sachs Global Investment Research

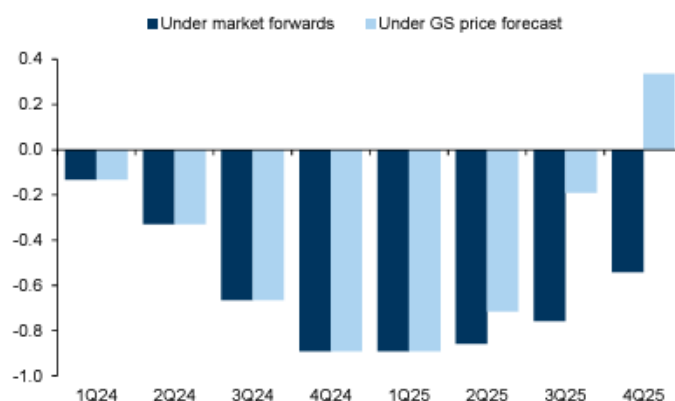
The largest dry-gas basin (area where gas is produced without oil or liquids) is the Haynesville. Current Haynesville production is about 11.4bcfd. Low gas prices are expected to see a material decline in Haynesville gas production which should show from March. The speed of producer responses in the Haynesville and other gas basins will be the key factor determining both how long prices will stay depressed and how high they will need to move to, to deliver the supply the US market will require when new LNG facilities begin to come online towards the end of this year and through 2025.

Goldman sees current low prices steepening the expected declines in Haynesville gas production (Figure 10).

Figure 10: Haynesville Cumulative Production Growth vs 4Q23, bcfd (Source: GS)

Exhibit 4: We expect steeper declines in the Haynesville following the move lower in prices

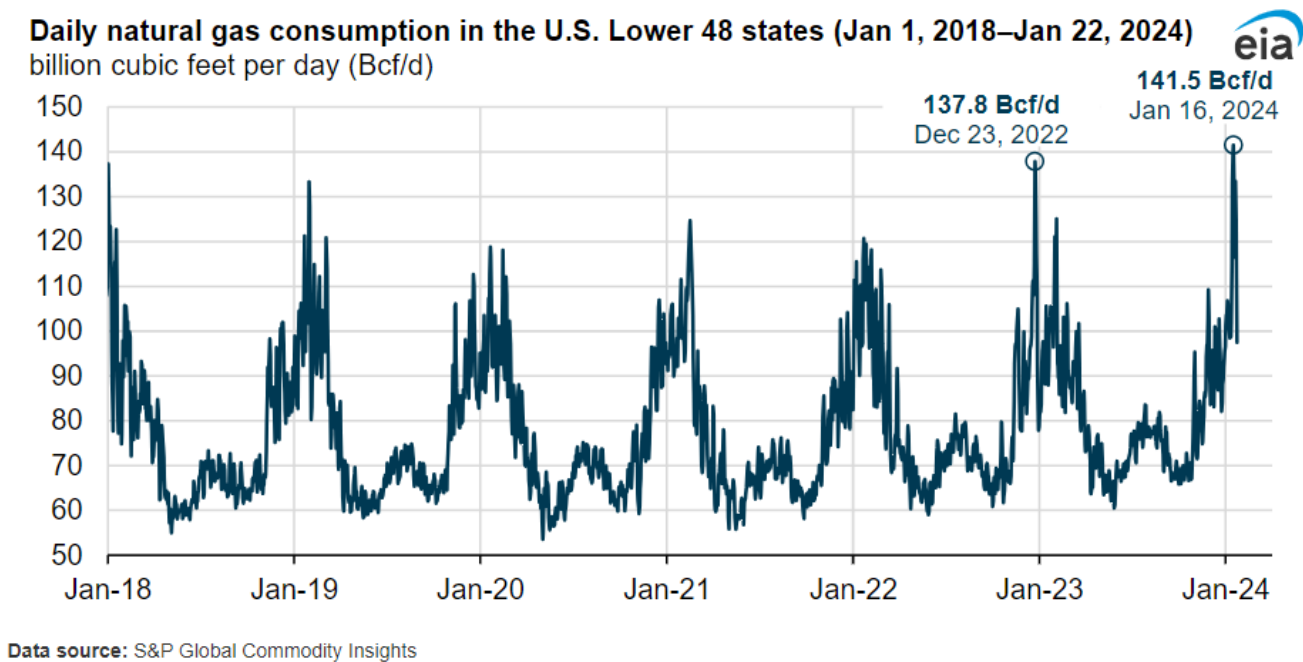
Haynesville cumulative production growth vs 4Q23, Bcf/d



Source: Goldman Sachs Global Investment Research

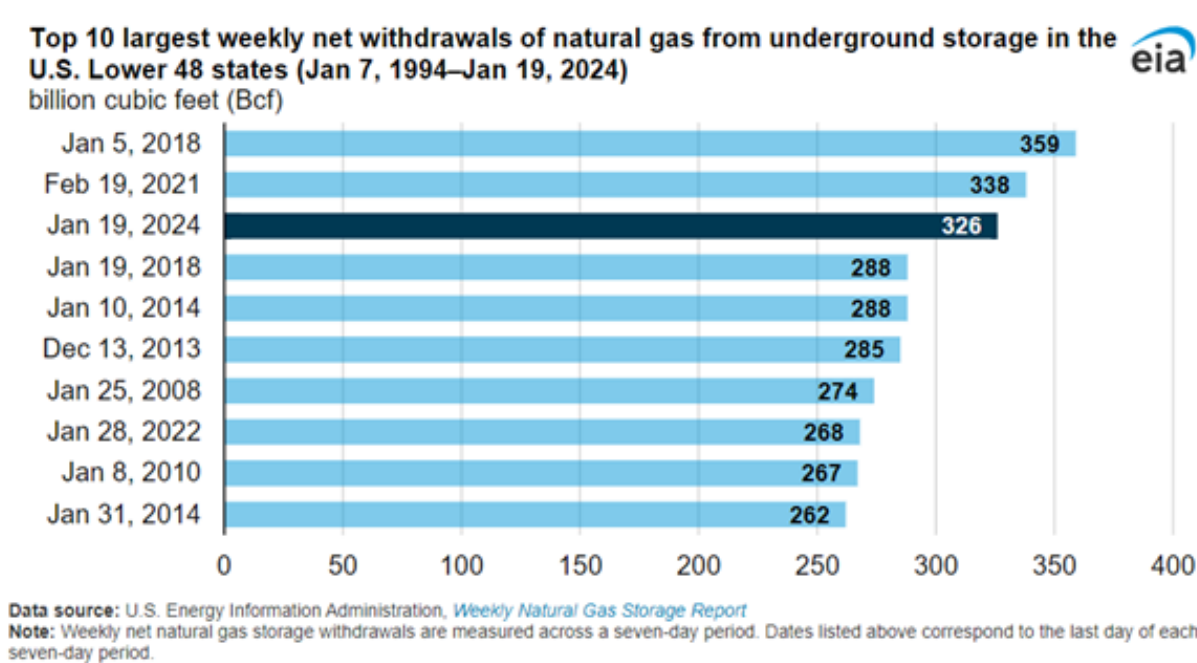
Highlighting natural gas market volatility, in contrast to the inflation adjusted low spot prices realised on 20 February a month earlier, on 16 January a record high of 141.5 bcf of natural gas was consumed in the US Lower 48 states (Figure 11). Well-below-normal temperatures, caused by a large mass of arctic air that covered most of the continental US, increased residential and commercial space heating and electric power generation demand for natural gas.

Figure 11: Daily US Lower 48 Natural Gas Consumption, bcf/d (Source: S&P, via EIA)



Weekly net withdrawals of natural gas from underground storage in the Lower 48 for the week ending 19 January totalled 326 bcf, the third-most for any week on record (Figure 12).

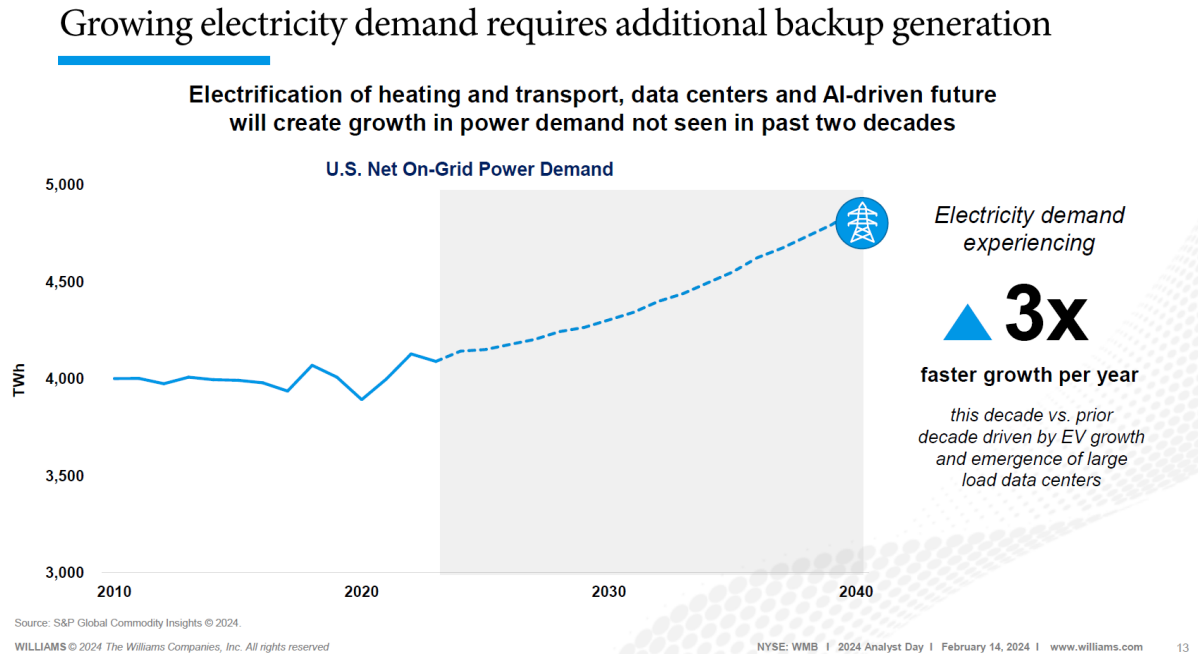
Figure 12: 10 Largest Weekly Natural Gas Withdrawals (Source: EIA)



Williams Companies own and operate an extensive network of natural gas pipelines, storage and processing facilities. Their 2024 Analyst Day briefings contained some relevant information on the future of the US natural gas market.

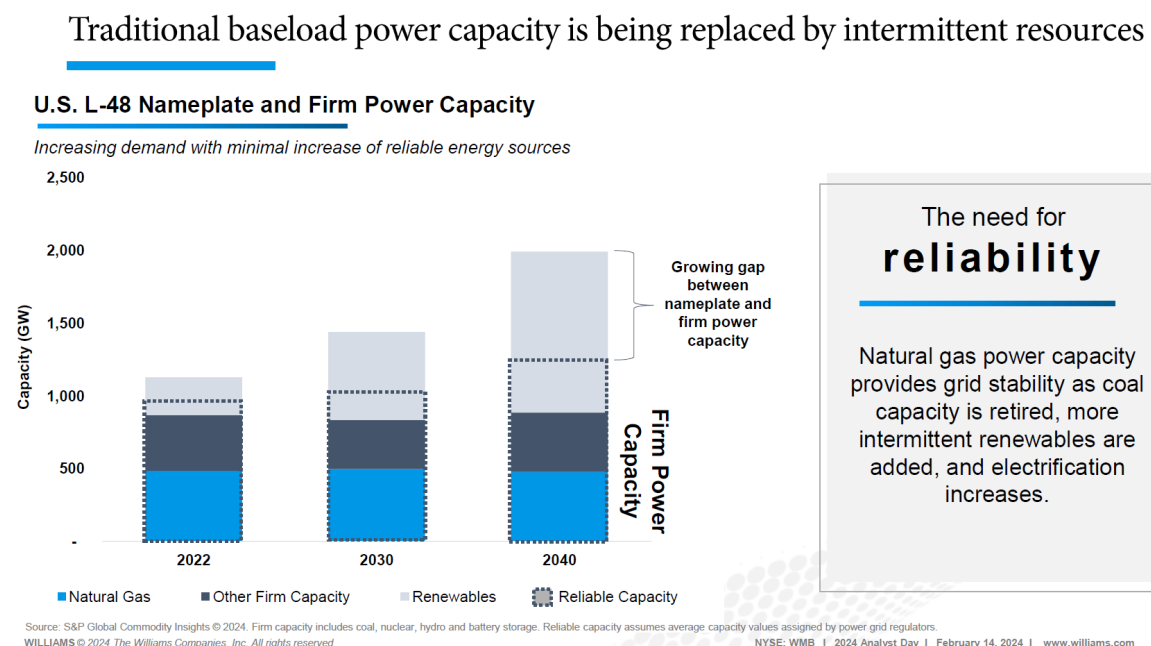
Demand for electricity is growing rapidly, which will require additional backup generation for which gas is well suited (Figure 13).

Figure 13: US Net On-Grid Power Demand (Source: S&P, via Williams)



Traditional baseload power capacity is being replaced by intermittent resources (Figure 14). The need for system reliability as coal is withdrawn from the market will increase demand for natural gas.

Figure 14: L-48 Nameplate and Firm Power Capacity (Source: S&P, via EIA)



Williams expects Lower-48 natural gas demand to grow by 24.3bcf/d through 2032 (Figure 15).

Figure 15: Projected L-48 Cumulative Natural Gas Demand Growth by Sector (Source: various, via Williams)

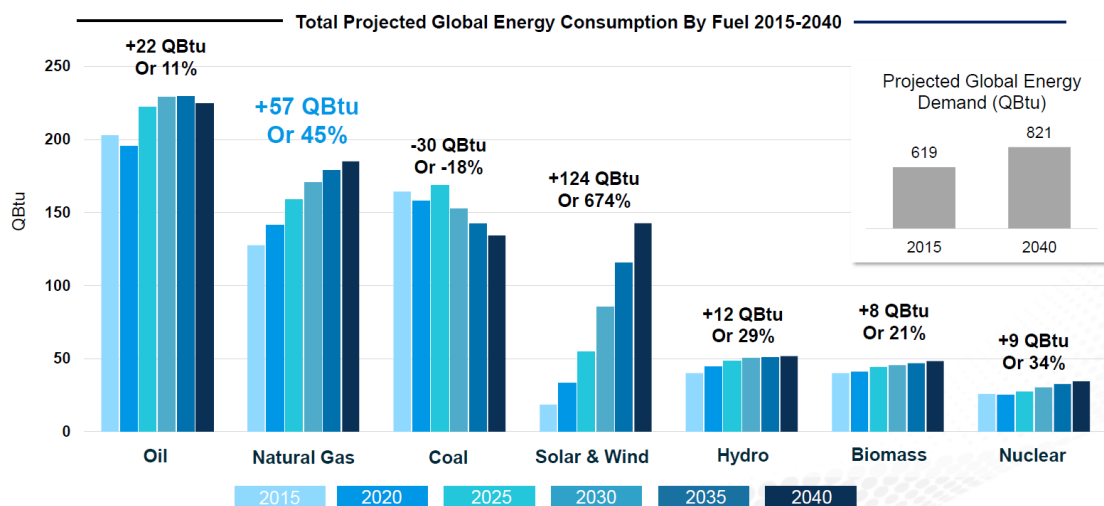
Projected Lower-48 natural gas demand grows by 24.3 Bcf/d through 2032



Increased LNG export capacity will connect the US gas market to the world. Globally, nearly 25% of global energy demand growth through 2040 is projected to be filled by natural gas (Figure 16).

Figure 16: Total Projected Global Energy Consumption by Fuel (Source: various, via Williams)

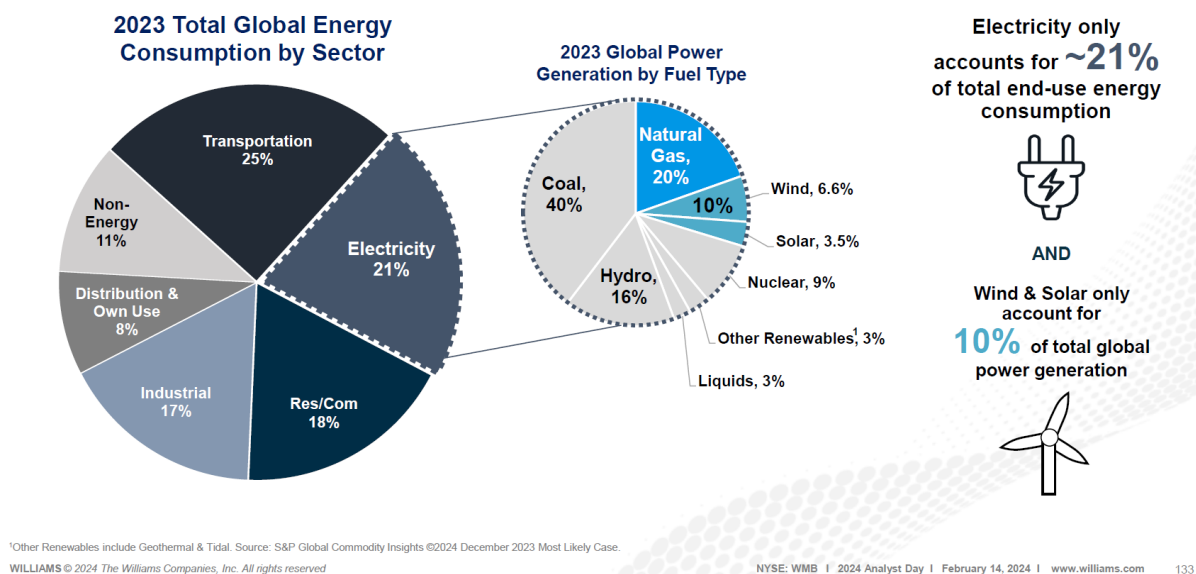
Nearly one-quarter of global energy demand growth through 2040 projected to be filled by natural gas



In absolute terms, renewables remain a small part of the energy mix (Figure 17). Electricity only accounts for ~21% of total end-use energy consumption and wind and solar currently generate about 10% of global electricity.

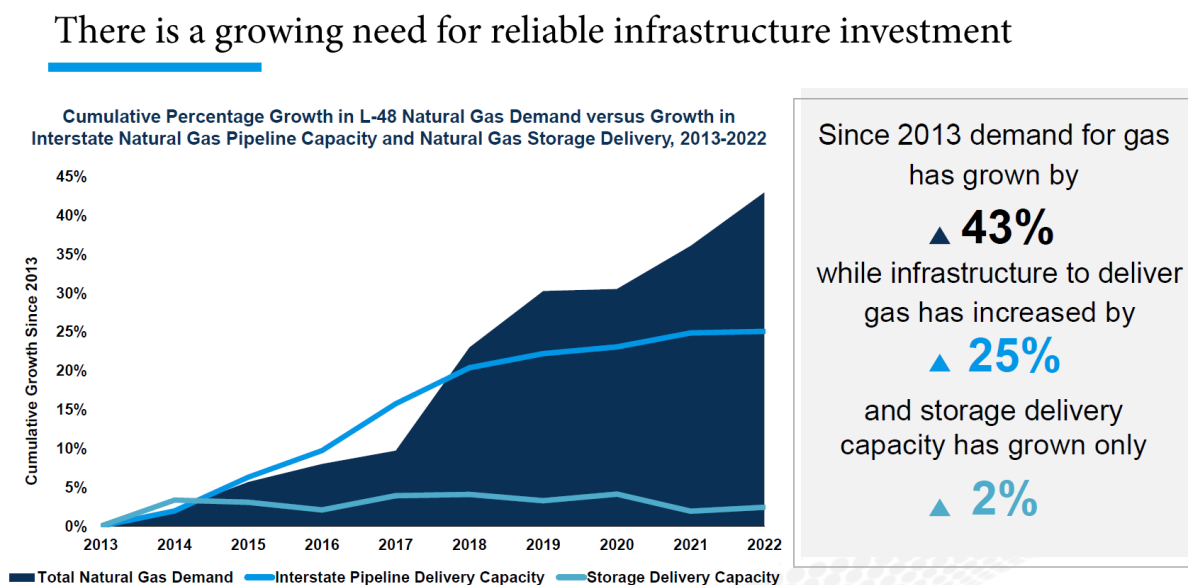
Figure 17: 2023 Total Global Energy Consumption by Sector (Source: various, via Williams)

Renewables remain a small part of the total energy mix



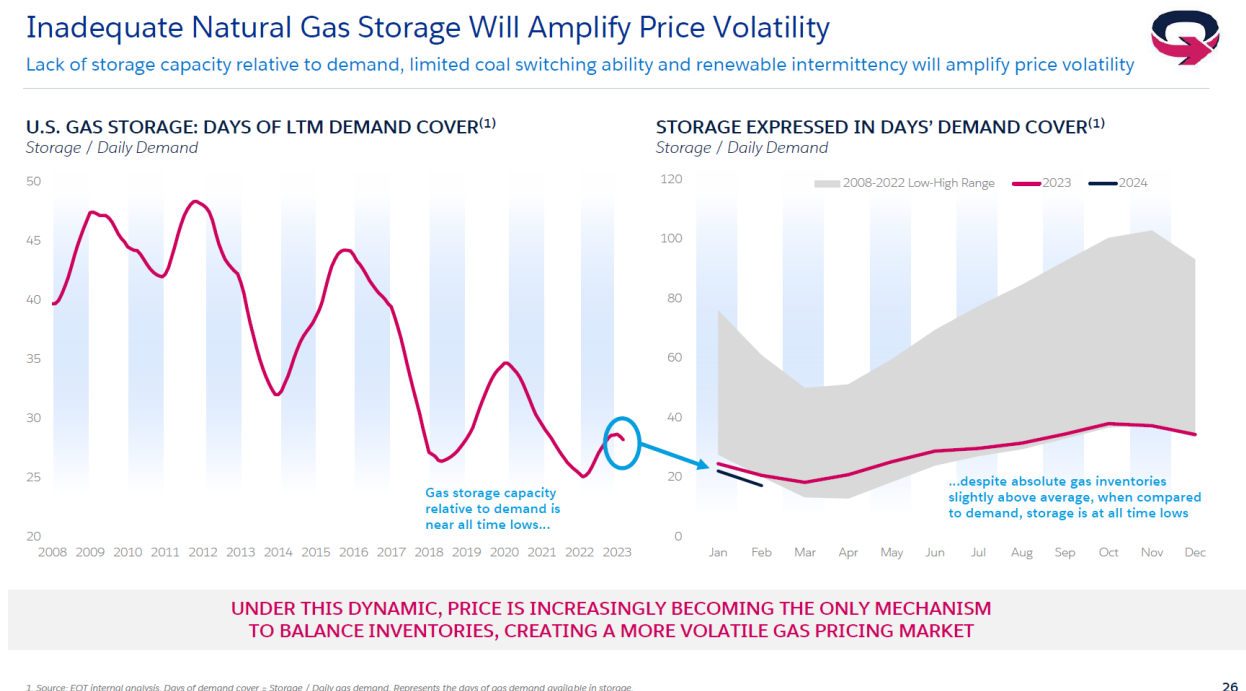
There is inadequate natural gas storage in the US. Since 2013 demand for gas has grown by 43%, the infrastructure to deliver gas to market (interstate pipelines) has increased by 25%, while the ability to deliver gas from storage has only increased by 2% (Figure 18).

Figure 18: Cumulative % Growth in Nat Gas Demand, Pipelines and Storage Delivery (Source: various, via Williams)



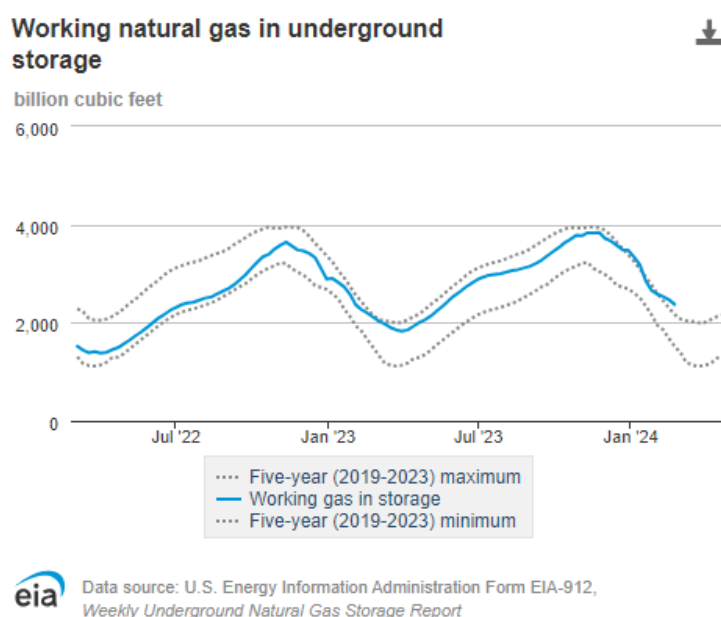
Static storage capacity has seen storage relative to average daily demand decline substantially (Figure 19). A lack of storage capacity relative to demand, limited ability to switch fuels between gas and coal and renewable intermittency, will combine to amplify spot price volatility. Managing and benefitting from this volatility will be a key challenge for natural gas producers in the next decade.

Figure 19: US Natural Gas Storage and Days of Demand (Source: various, via Williams)



Net withdrawals from storage totalled 96 bcf for the week ending 23 February, compared to the five-year (2019-2023) average net withdrawals of 143 bcf and last year's net withdrawals of 79 bcf during the same week. Working natural gas stocks on 23 February totalled 2,374 bcf, which is 498 bcf (27%) more than the five-year average and 248 bcf (12%) more than this time last year (Figure 20).

Figure 20: US Lower 48 Weekly Working Gas in Underground Storage (Source: EIA)

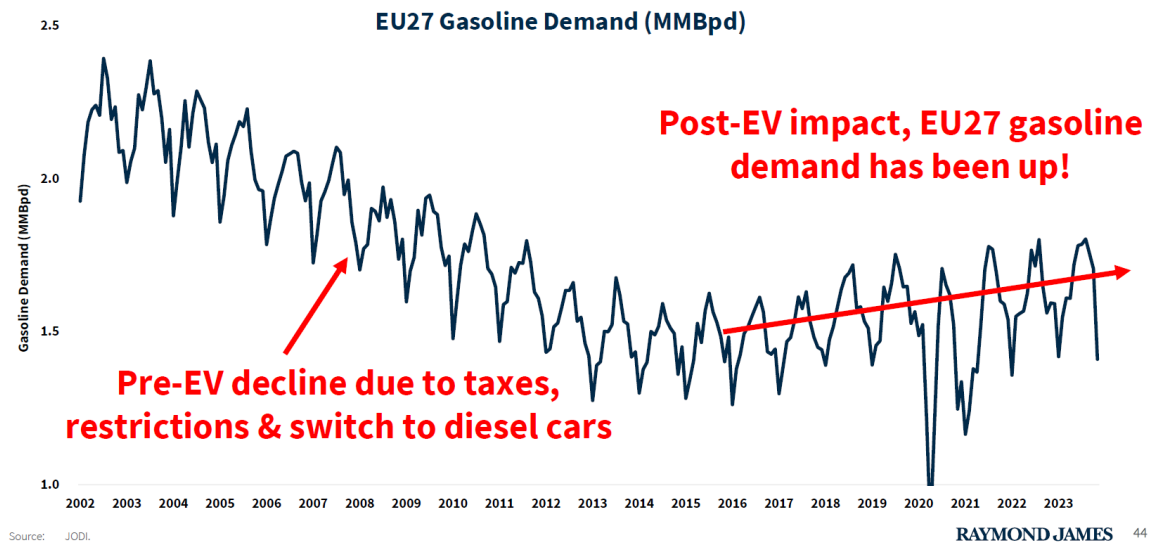


Oil Market

Since 2015 the growing market share of electric vehicles (EVs) has not reduced gasoline (petrol) demand in the European Union (EU27). In the prior decade petrol demand had declined due to taxes, emissions restrictions, and increased use of more efficient diesel cars but that trend has now reversed (Figure 21).

Figure 21: EU27 Gasoline Demand (Source: Raymond James)

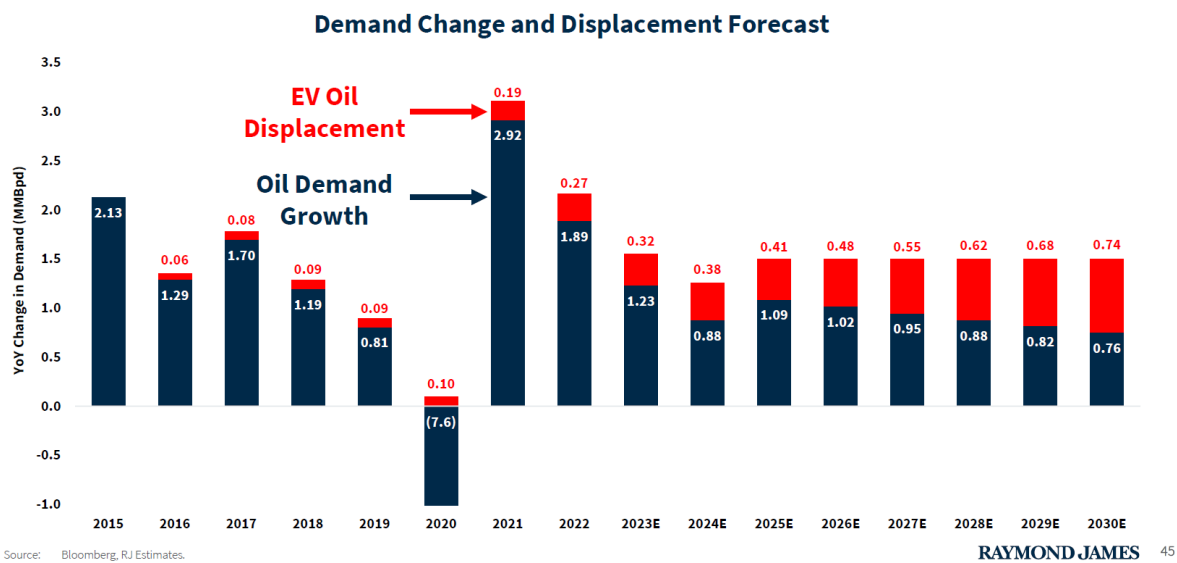
EV Epicenter Shows Little Gasoline Impact



EV's are reducing oil demand, though not by enough to stop total oil demand's continued growth (Figure 22).

Figure 22: Oil Demand Change Forecast (Source: Bloomberg, Raymond James)

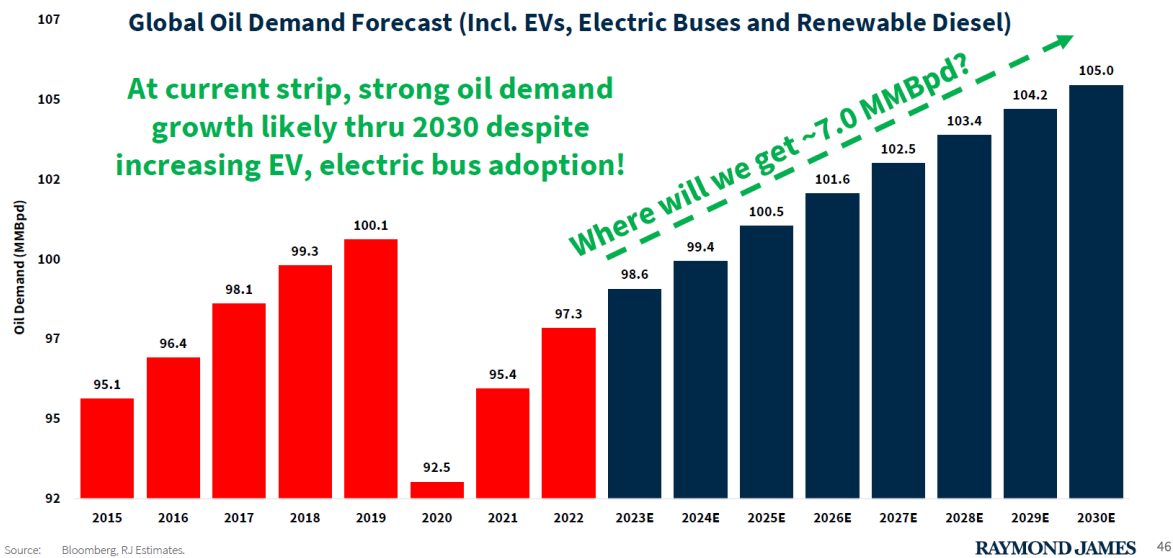
EV Impact on Oil Demand Overestimated



By 2023, global oil demand is projected to increase by approximately 7mmbbld over the next 7 years (Figure 23).

Figure 23: Global Oil Demand Forecast (Source: various, via Raymond James)

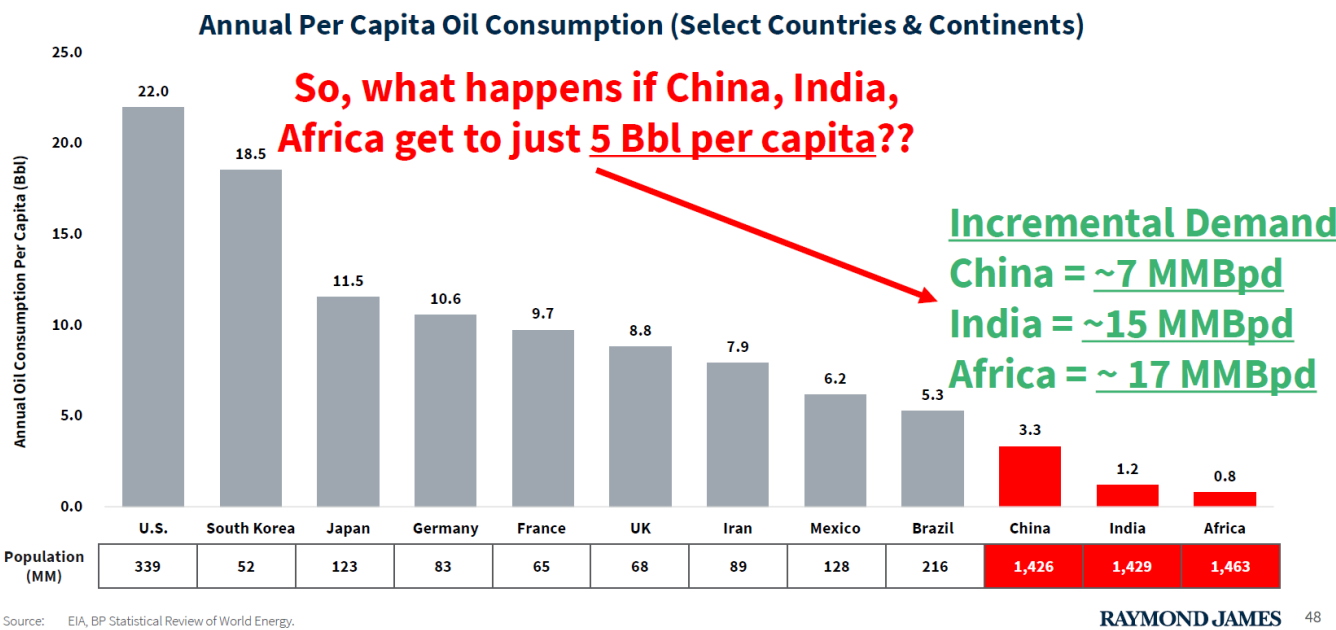
2030 Still Requires 7 MMBpd More Oil!



Global annual per-capita oil demand remains a long way behind the US (Figure 24). There is 39 mmbbld of incremental oil demand if China, India and Africa reach 5 bbl per capita per annum (compared to 22 in the US and 10 in France and Germany).

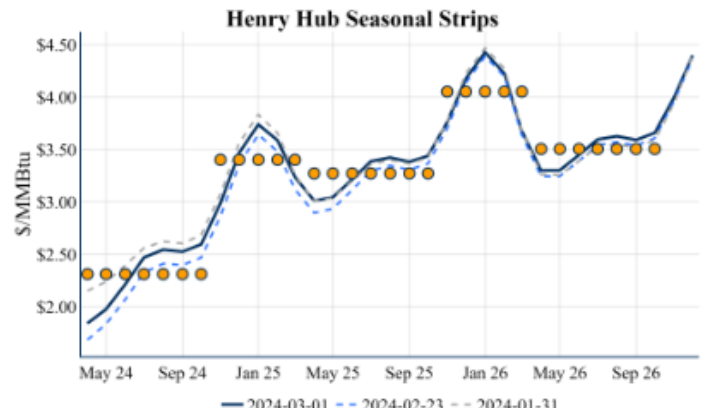
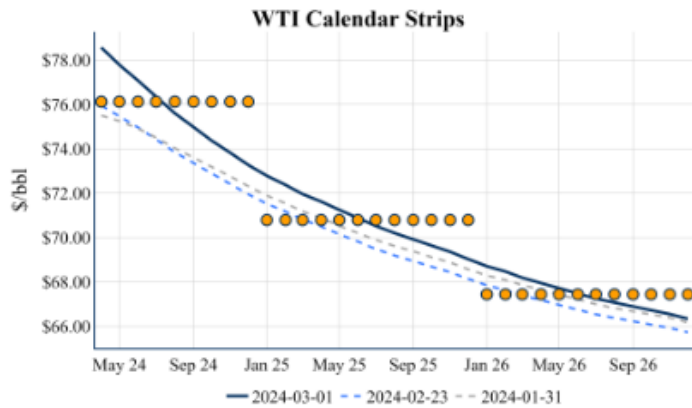
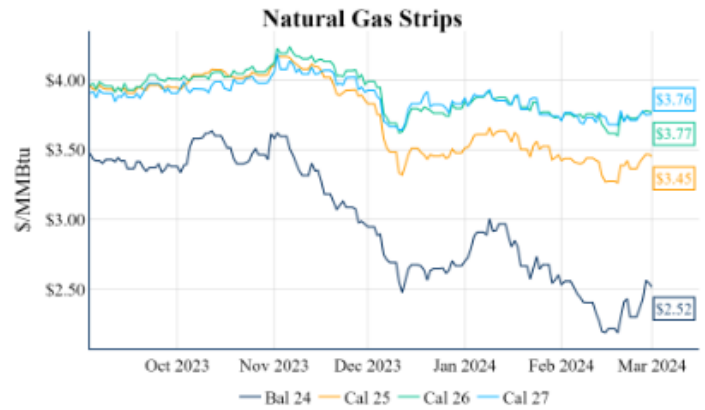
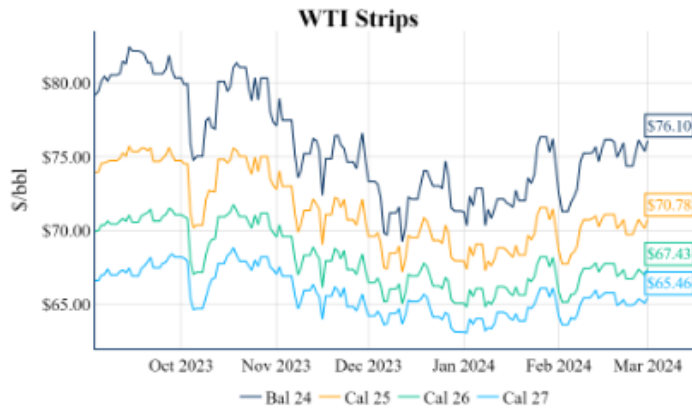
Figure 24: Annual Per Capita Oil Consumption (Source: various, via Raymond James)

Also, Global Demand Still WAY Behind U.S.





Gas and Oil Prices 1 March 2024

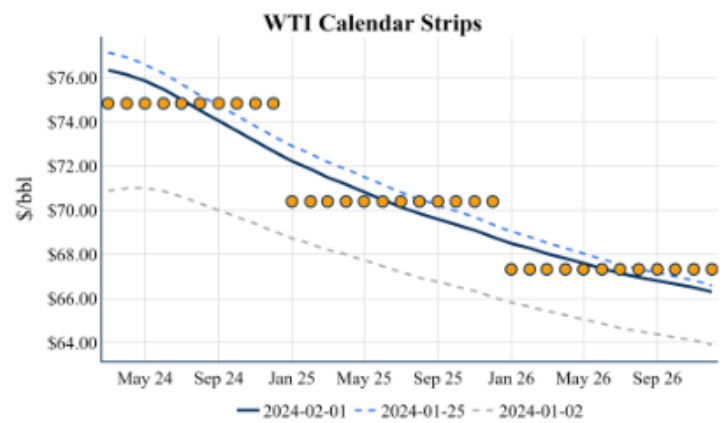
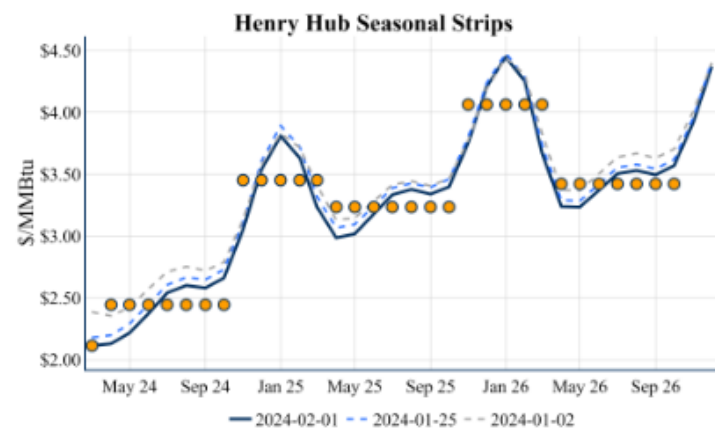
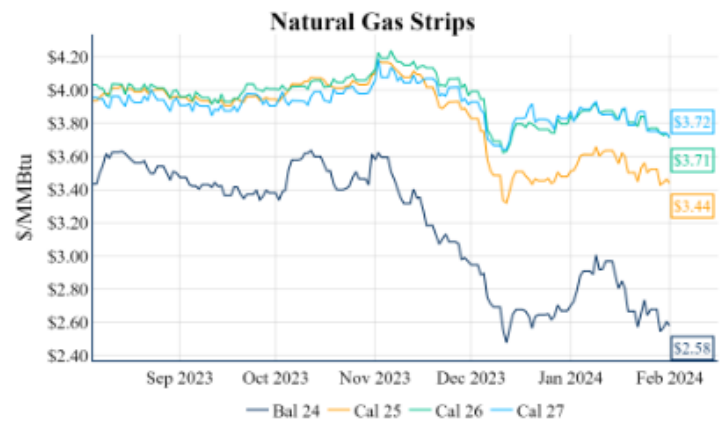
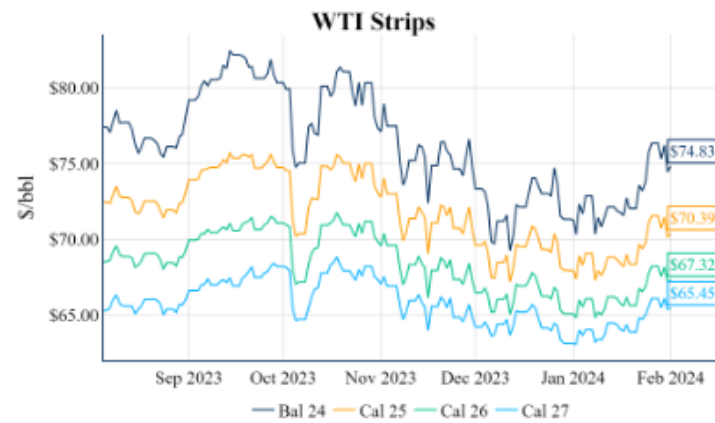


Swap Pricing	Bal 24	Cal 25	Cal 26
NYMEX WTI	\$76.11	\$70.78	\$67.44
ICE Brent	\$80.05	\$75.40	\$72.50
LLS	\$78.63	\$73.46	\$70.24
Mars	\$75.96	\$70.28	\$65.69
West TX Sour (WTS)	\$76.14	\$70.68	\$66.94
Dubai	\$79.37	\$74.59	\$71.80
Dated Brent	\$80.17	\$75.54	\$72.52
WCS-WTI	-\$14.27	-\$13.46	NaN

Swap Pricing	Month 1	Summer 24	Winter 24/25	Summer 25	Winter 25/26
Henry Hub Fixed	\$1.856	\$2.326	\$3.406	\$3.287	\$4.051
Eastern Gas South	-\$0.473	-\$0.791	-\$0.880	-\$1.039	-\$0.958
Waha	-\$1.160	-\$0.934	-\$0.479	-\$0.807	-\$0.487
TETCO M3	-\$0.371	-\$0.647	\$0.477	-\$0.877	\$0.480
Houston Ship Channel	-\$0.290	-\$0.301	-\$0.181	-\$0.315	-\$0.154
Columbia Gulf Mainline	-\$0.170	-\$0.219	-\$0.232	-\$0.231	-\$0.255
Panhandle East	-\$0.280	-\$0.484	-\$0.094	-\$0.644	-\$0.096
NGPL MidCon	-\$0.260	-\$0.377	\$0.037	-\$0.380	\$0.012
SoCal	\$0.126	\$0.448	\$2.140	\$0.479	\$1.601
AECO	-\$0.577	-\$1.019	-\$1.053	-\$1.032	-\$1.020
Chicago City-Gates	-\$0.130	-\$0.256	\$0.314	-\$0.271	\$0.305



Gas and Oil Prices 1 February 2024



Swap Pricing	Bal 24	Cal 25	Cal 26
NYMEX WTI	\$74.83	\$70.39	\$67.31
ICE Brent	\$79.16	\$75.06	\$72.47
LLS	\$77.31	\$73.05	\$70.02
Mars	\$74.80	\$69.69	\$65.57
West TX Sour (WTS)	\$74.81	\$70.12	\$66.82
Dubai	\$78.63	\$74.53	\$72.05
Dated Brent	\$79.02	\$75.11	\$72.47
WCS-WTI	-\$13.81	-\$13.43	NaN

Swap Pricing	Month 1	Winter 23/24	Summer 24	Winter 24/25	Summer 25
Henry Hub Fixed	\$2.125	\$2.125	\$2.449	\$3.453	\$3.247
Eastern Gas South	-\$0.563	-\$0.563	-\$0.936	-\$0.916	-\$1.116
Waha	-\$0.950	-\$0.950	-\$0.858	-\$0.445	-\$0.806
TETCO M3	-\$0.218	-\$0.218	-\$0.781	\$0.380	-\$0.963
Houston Ship Channel	-\$0.215	-\$0.215	-\$0.279	-\$0.125	-\$0.285
Columbia Gulf Mainline	-\$0.150	-\$0.150	-\$0.210	-\$0.244	-\$0.236
Panhandle East	-\$0.219	-\$0.219	-\$0.390	\$0.133	-\$0.470
NGPL MidCon	-\$0.170	-\$0.170	-\$0.330	\$0.064	-\$0.385
SoCal	\$0.233	\$0.233	\$0.801	\$2.453	\$0.584
AECO	-\$0.690	-\$0.690	-\$1.095	-\$1.023	-\$1.014
Chicago City-Gates	-\$0.014	-\$0.014	-\$0.220	\$0.344	-\$0.279



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