LONGREACH ENERGY

Monthly Report

Longreach Energy Holdings LLC

September 2024

FIRM INFORMATION

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1.0 Market and Portfolio Commentary

1.1 Macro Industry Commentary

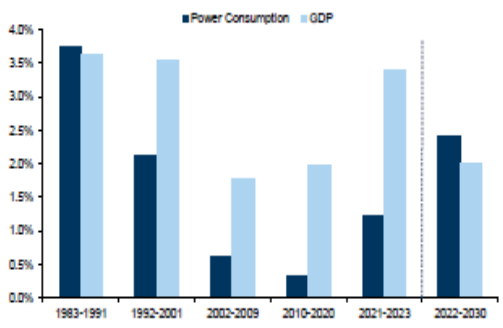
US Henry Hub prompt gas prices rose strongly in September after five weeks of lower-than-average storage injections and the timing impact from the prompt futures contract rolling into early winter November when increased demand for heating is likely. Month on month the prompt rose from $2.13/mmbtu at close on 30 August to $2.93/mmbtu at close on 30 September. Calendar 2024 was also stronger, beginning September at $2.56/mmbtu and closing at $3.14/mmbtu.

Oil prices continued to fall with strong production and ongoing concerns over reduced GDP growth in China, the largest international oil market. Geopolitical instability had only a minor impact on oil markets in September. The prompt began September at $73.55/bbl and closed the month at $68.17/bbl. Calendar 2024 started the month at $72.44/bbl and closed at $67.88/bbl.

It has been well documented that growth in Artificial Intelligence (AI) will reinforce growth in global power demand already underway with increased electrification. In the US, Goldman's equity analysts forecast that power consumption growth will outpace GDP growth through 2030 for the first time in three decades (LHS, Figure 1). Consequently, the energy sector is now one of the most intense sectors of the AI debate (RHS, Figure 1).

Figure 1: US Power Consumption and GDP Growth and Earning Calls References to "AI" (Source: various, via GS)

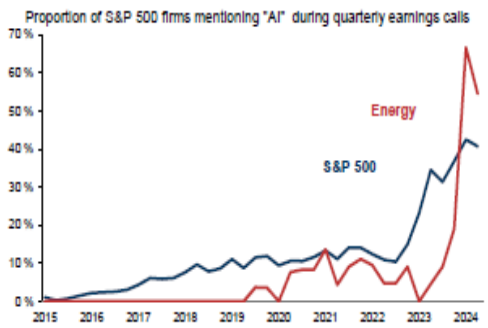
Exhibit 1: Our Equity Analysts Forecast That US Power Consumption Growth Will Outpace GDP Growth Through 2030 for the First Time in Three Decades
Average growth rates of US power consumption and real GDP, by business cycle, %



Each US business cycle starts with the expansion and ends with the recession, except for the current cycle, which uses realized data from 2021 to 2023 and GS forecasts afterwards (2030 is the end of the power consumption growth forecasts).

Source: EIA, Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 2: After initially lagging, US energy firms are increasing mentioning AI in their earnings calls
Proportion of S&P 500 firms mentioning AI during quarterly earnings calls



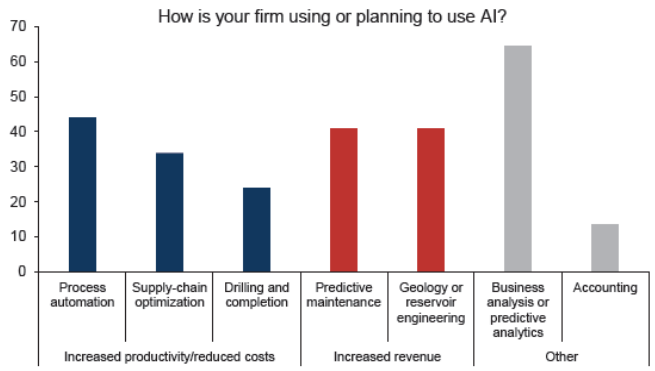
Source: Company reports, Goldman Sachs Global Investment Research

The energy sector's exposure to AI does not just come through increasing demand. AI is expected to provide oil and gas producers with the tools to reduce costs, optimise supply chains and avoid downtime (LHS, Figure 2). The full cycle time to drill and complete an average well is likely to decline further although we are approaching physical limits drilling performance (RHS, Figure 2).

Figure 2: Use of AI and Average Drilling Time for a Permian Well (Source: various, via GS)

Exhibit 3: AI is expected to be focused on reducing costs, optimising supply chains, and avoiding downtime

Dallas Fed AI survey responses to: How is your firm using or planning to use AI? (Oil and gas firm respondents)

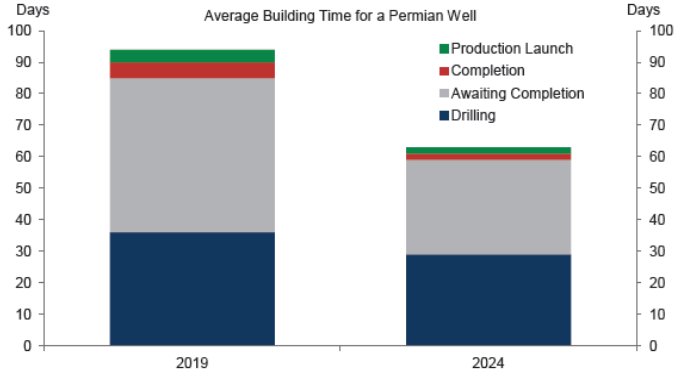


Predictive maintenance can also increase productivity and reduce costs

Source: Dallas Fed, Goldman Sachs Global Investment Research

Exhibit 4: Full cycle well times still have room to fall, although will face physical limits

Average cycle time from spud to production for US Permian Shale well



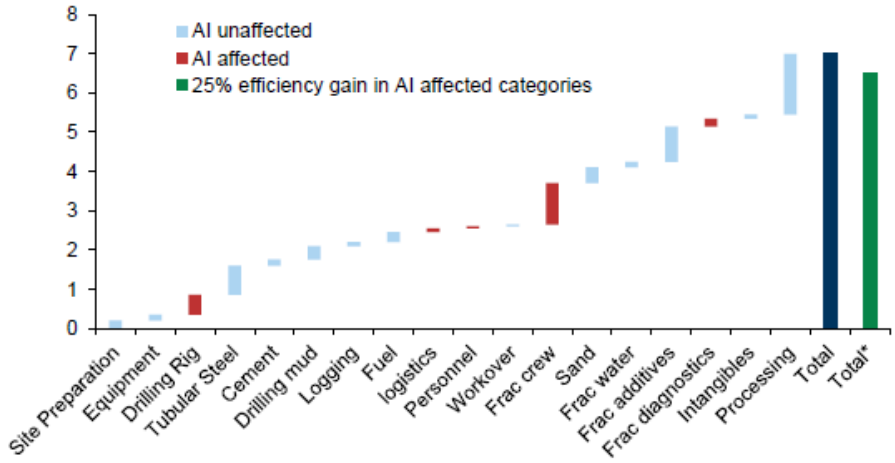
Source: EIA, Enverus, Platts, Goldman Sachs Global Investment Research

Goldman estimates that approximately 30% of US shale costs could be reduced by implementing AI (Figure 3).

Figure 3: US Permian Shale Cost by Potential AI Impact (Source: WoodMac, via GS)

Exhibit 5: We estimate c.30% of US shale costs could be reduced by implementing AI

US Permian shale well cost breakdown by potential AI impact ($m)



Source: Woodmac, Goldman Sachs Global Investment Research

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The latest Baker Hughes rig count data follows. In September US total land rigs rose by 3 from 563 to 566. Total oil rigs fell by 4 from 483 to 479 while gas rigs rose by 7 from 95 to 102. Oil and gas rig totals include 18 offshore rigs working in September.

Baker Hughes

NORTH AMERICA Rotary Rig Count

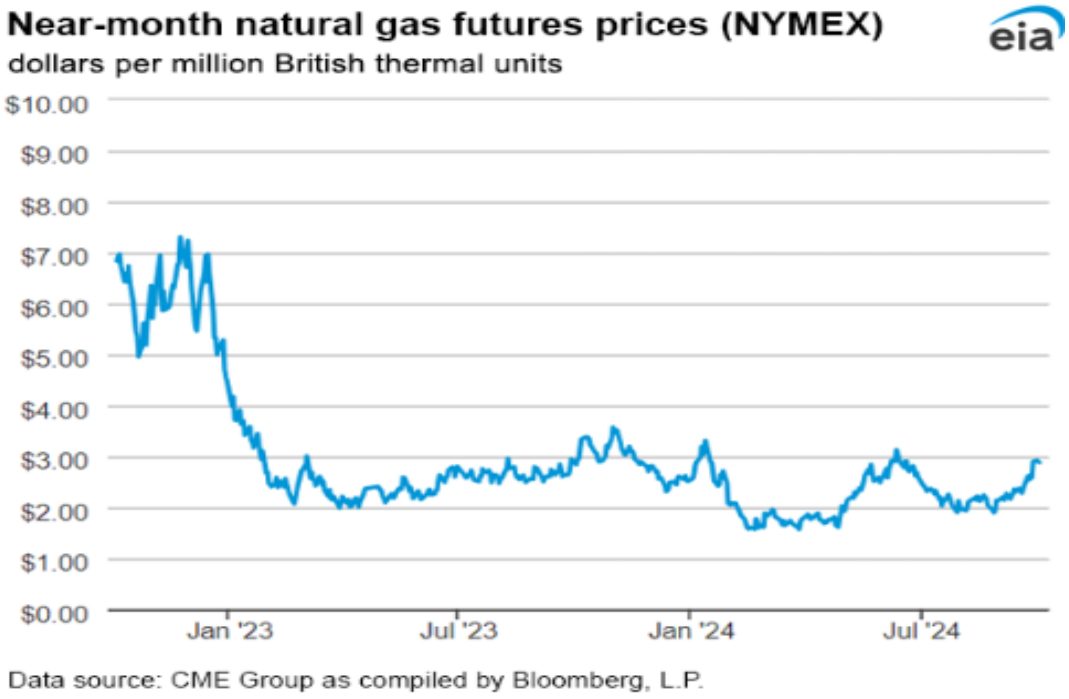
4/10/2024

Location	Week	+/-	Week	+/-	YearAgo
Inland Waters	1	0	1	-2	3
Land	566	-1	567	-30	596
Offshore	18	-1	19	-2	20
United States Total	**585**	**-2**	**587**	**-34**	**619**
Gulf of Mexico	**16**	**-1**	**17**	**-2**	**18**
Canada	**223**	**5**	**218**	**43**	**180**
North America	**808**	**3**	**805**	**9**	**799**
U.S. Breakout Information	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Gas	102	3	99	-16	118
Oil	479	-5	484	-18	497
Miscellaneous	4	0	4	0	4
Directional	49	-1	50	-4	53
Horizontal	522	-1	523	-31	553
Vertical	14	0	14	1	13
Canada Breakout	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Gas	63	-2	65	-9	72
Oil	157	5	152	49	108
Miscellaneous	3	2	1	3	0

Gas Market

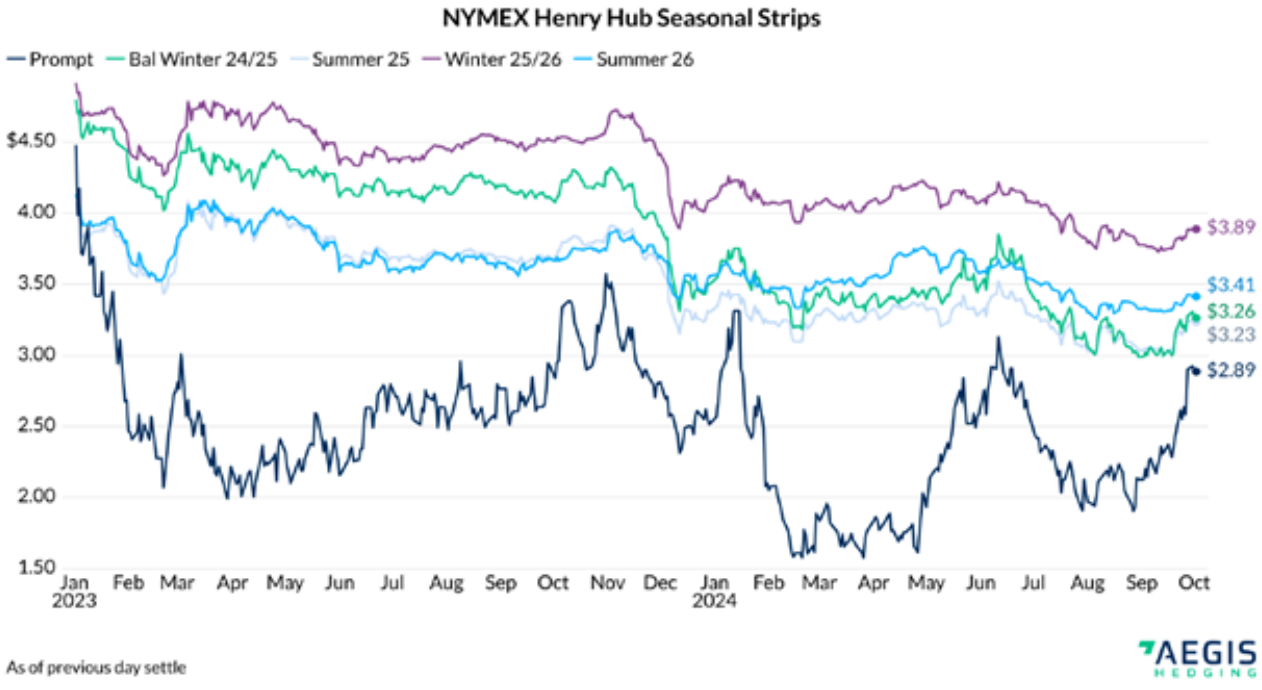
Henry Hub prompt prices rose strongly in September due to the roll of the prompt contract into higher priced November and continued low storage injections (Figure 4).

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



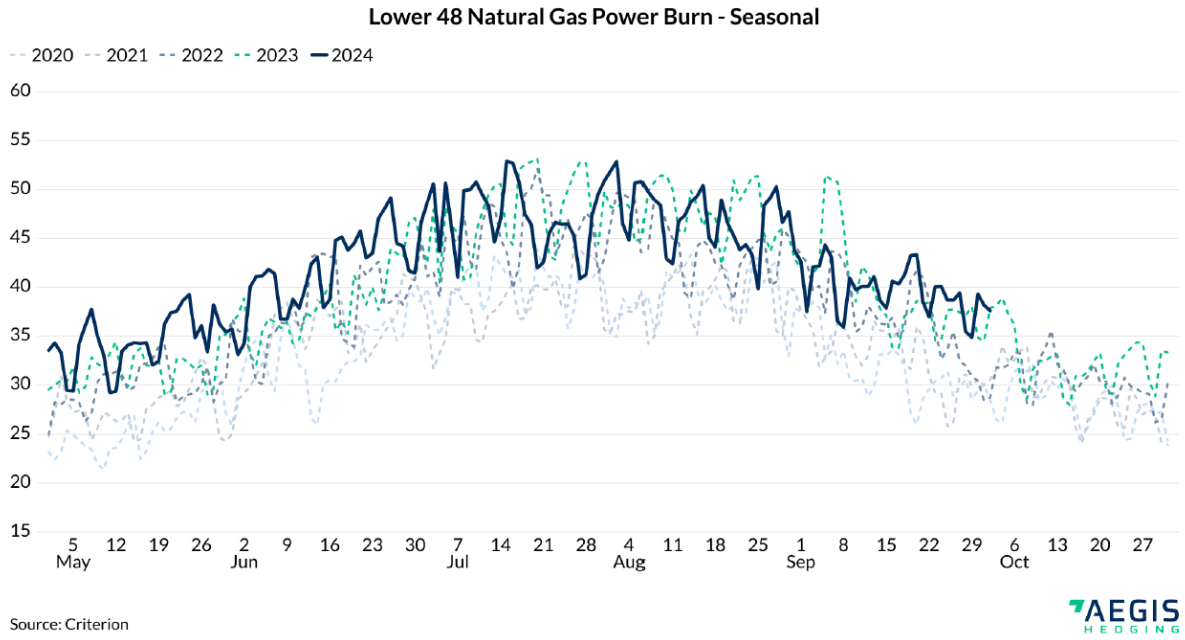
Henry Hub prompt prices rose strongly in September due to the roll of the prompt contract into higher priced November and continued low storage injections (Figure 4).

Figure 5: NYMEX Henry Hub Seasonal Strips (Source: Aegis)



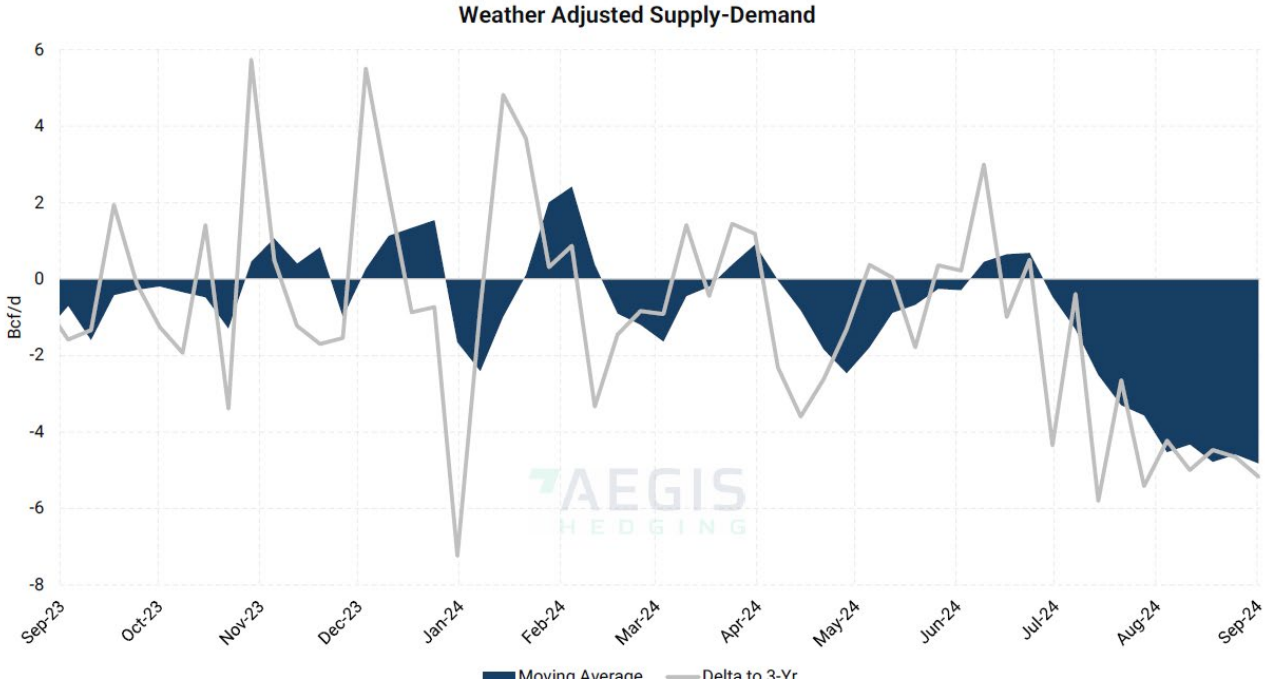
Lower 48 natural gas power burn (electricity generation) has remained strong since May (Figure 6).

Figure 6: Lower 48 Natural Gas Summer Power Burn (Source: Criterion, via Aegis)



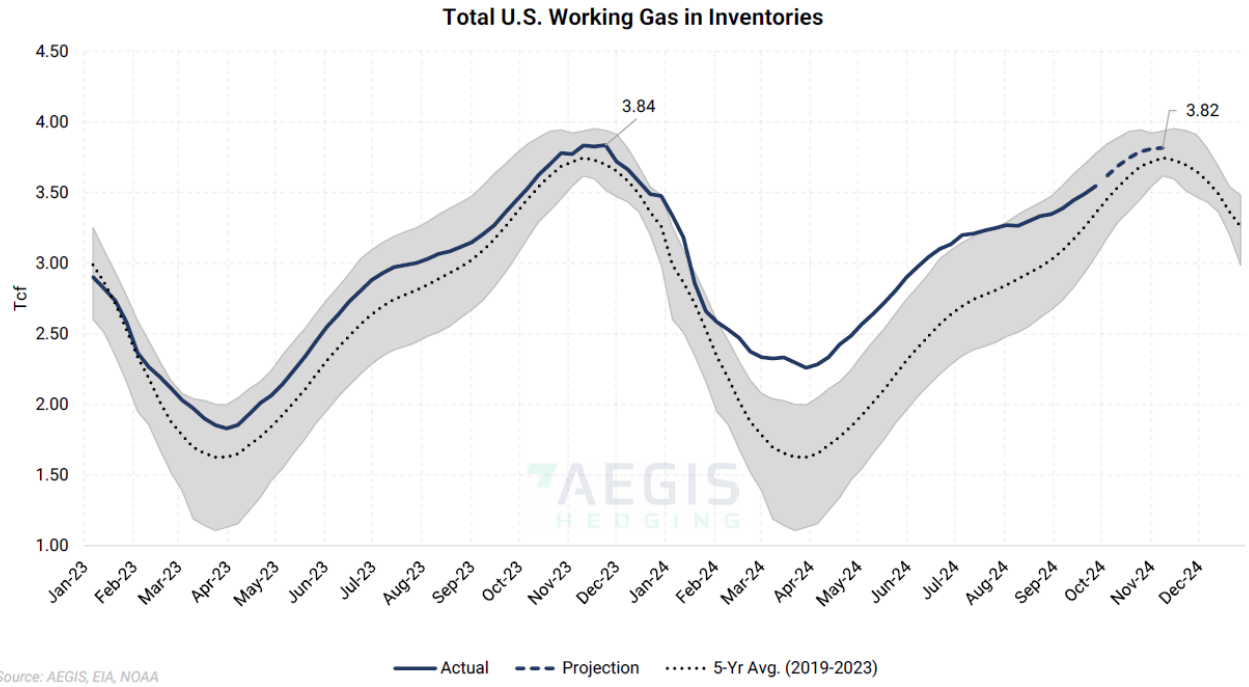
Strong electricity demand for natural gas together with flat production have combined to deliver a tight supply and demand balance. AEGIS estimates that weather adjusted demand is currently 5bcfd greater than supply (Figure 7). This tightness has helped the recovery in near term Henry Hub gas prices.

Figure 7: Weather Adjusted Supply-Demand (Source: Aegis)



Working inventories of natural gas began the northern summer well above the 5-year maximum. This excess has steadily declined as summer has progressed with average injections into storage so far in the injection season (April to October) 26% lower than the five-year average. Storage levels are now forecast to peak at 3.82tcf, slightly below the November 2023 peak of 3.84tcf (Figure 8). Early in the summer there were fears that gas seeking storage could exceed current system capacity of approximately 4.2tcf. The market, through lower prices and higher demand, ensured those fears were unrealised.

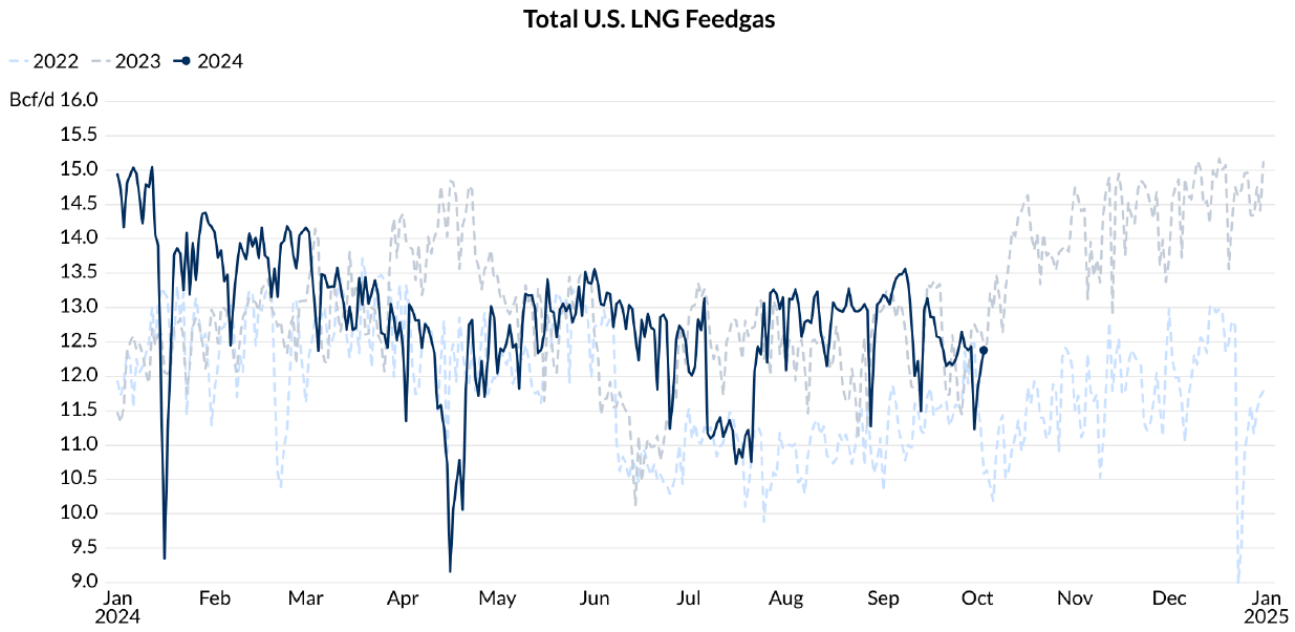
Figure 8: US Working Gas Inventories (Source: NOOA, EIA, Aegis)



Working natural gas stocks are currently 3,547 bcf, which is 190 bcf (6%) more than the five-year average and 127 bcf (4%) more than this time last year.

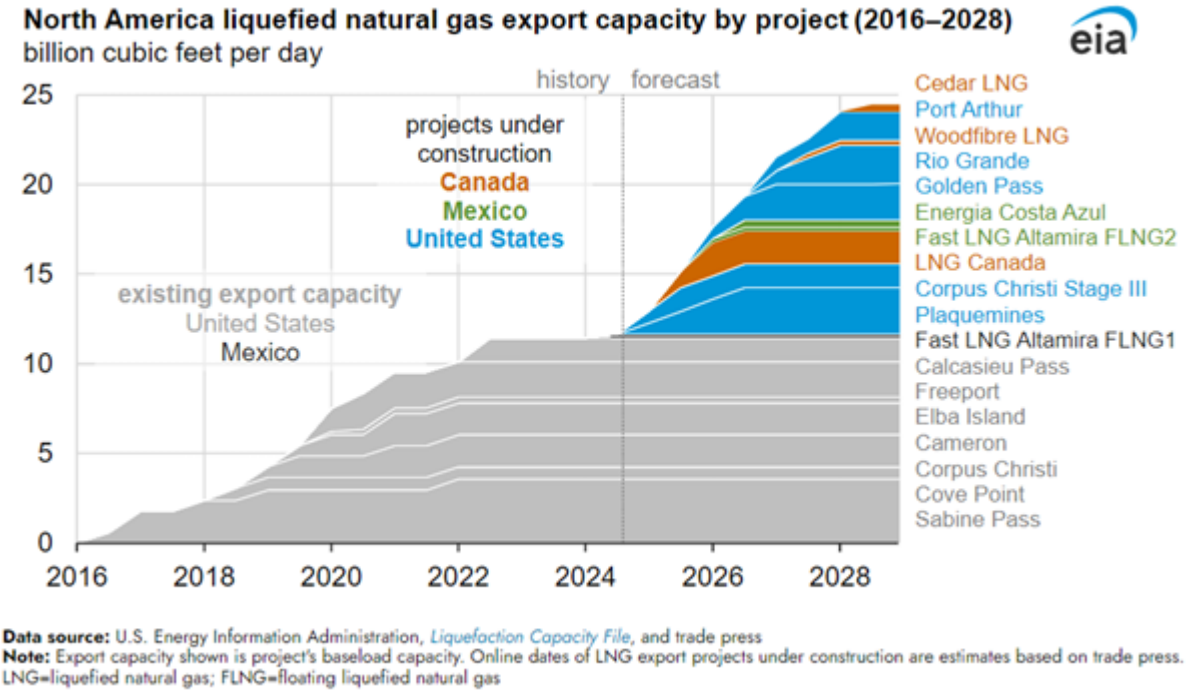
LNG did not play a material role in the tight supply demand balance of the last few months. Maintenance and repair outages have delivered LNG demand slightly down on comparable period in 2023 (Figure 9).

Figure 9: Total US LNG Feedgas (Source: Aegis)



The increase in LNG demand coming from the next wave of LNG export facilities will start to be felt in 2025 (Figure 10). Venture Global's Plaquemines Parish LNG facility, located about 20 miles south of New Orleans, will be the first large new facility online. It has started taking small volumes of working gas and will commence commercial LNG production early in 1Q25. By 2028 US LNG export capacity is set to average 24.4bcfd more than twice the 11.4bcfd exported in 2023.

Figure 10: North American LNG Export Capacity by Project (Source: EIA)

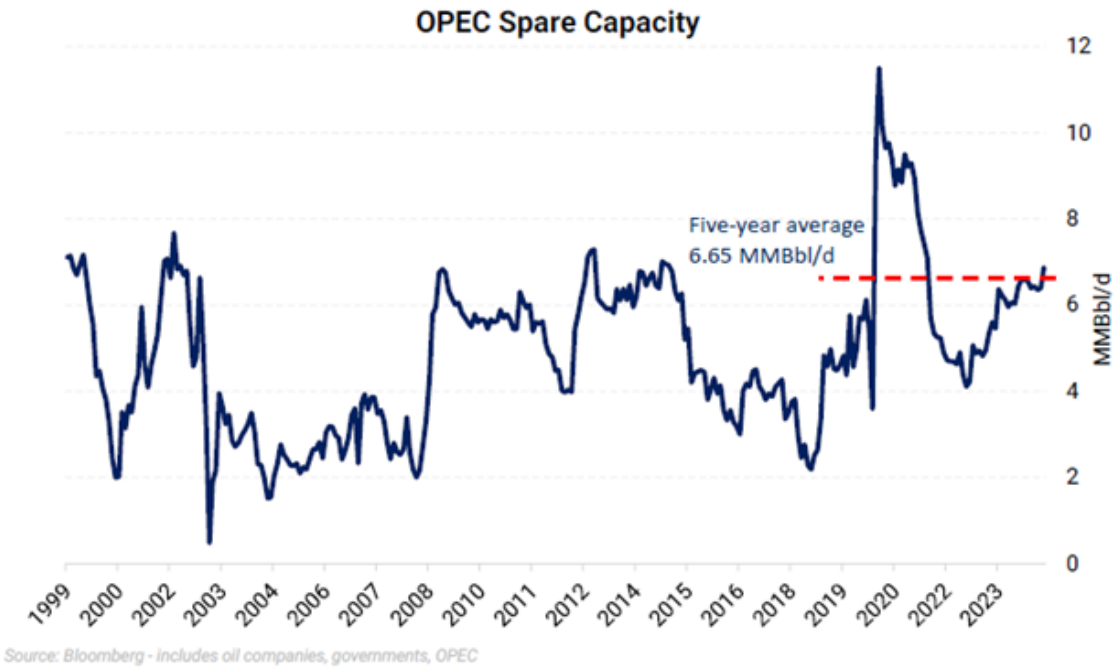


Data source: U.S. Energy Information Administration, *Liquefaction Capacity File*, and trade press
Note: Export capacity shown is project's baseload capacity. Online dates of LNG export projects under construction are estimates based on trade press.
LNG=liquefied natural gas; FLNG=floating liquefied natural gas

Oil Market

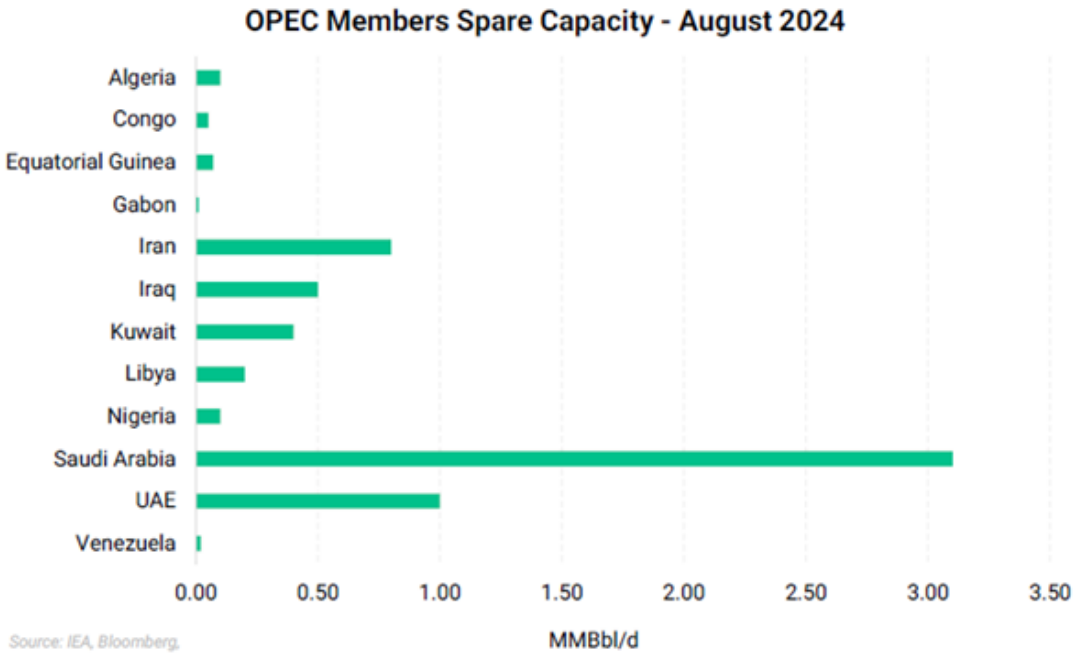
OPEC spare capacity is currently roughly at the five-year average of 6.65mmbbld (Figure 11).

Figure 11: OPEC Spare Capacity (Source: various, via Aegis)



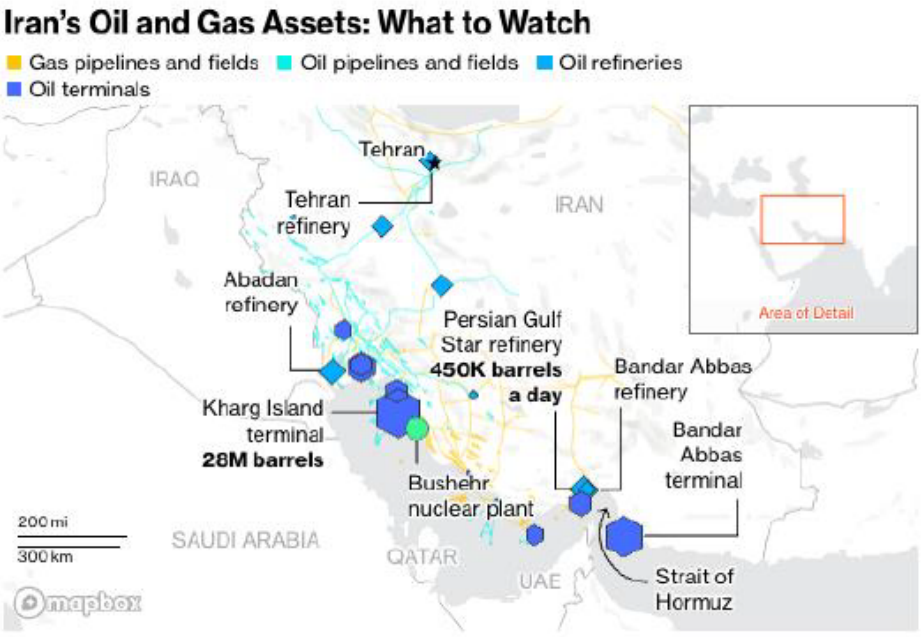
Saudi Arabia has over 3mmbbld of spare capacity, UAE is second with about 1mmbbld (Figure 12). OPEC's current announced intention is to steadily increase its supply by 2.5mmbbld over the next 12 months.

Figure 12: OPEC Members Spare Capacity – August 2024 (Source: various, via Aegis)



In August, Iran had approximately 750kbbld spare capacity and is now the focus of geopolitical supply issues. Any disruption to transport through the Strait of Hormuz would likely have a pronounced impact on global oil supply (Figure 13).

Figure 13: Iran's Oil Assets (Source: various, via Aegis)



Sources: Bloomberg (oil refineries and terminals); US Department of Energy Global Oil & Gas Features Database (pipelines and fields)
Note: Oil refineries and terminals are sized by capacity.

OECD commercial oil stocks remain below the five-year average (Figure 14) however forecasts indicate that the global oil market will be oversupplied from 1Q25 (Figure 15). This pressure is lowering oil prices.

Figure 14: OECD Commercial Stocks (Source: IEA, via Aegis)

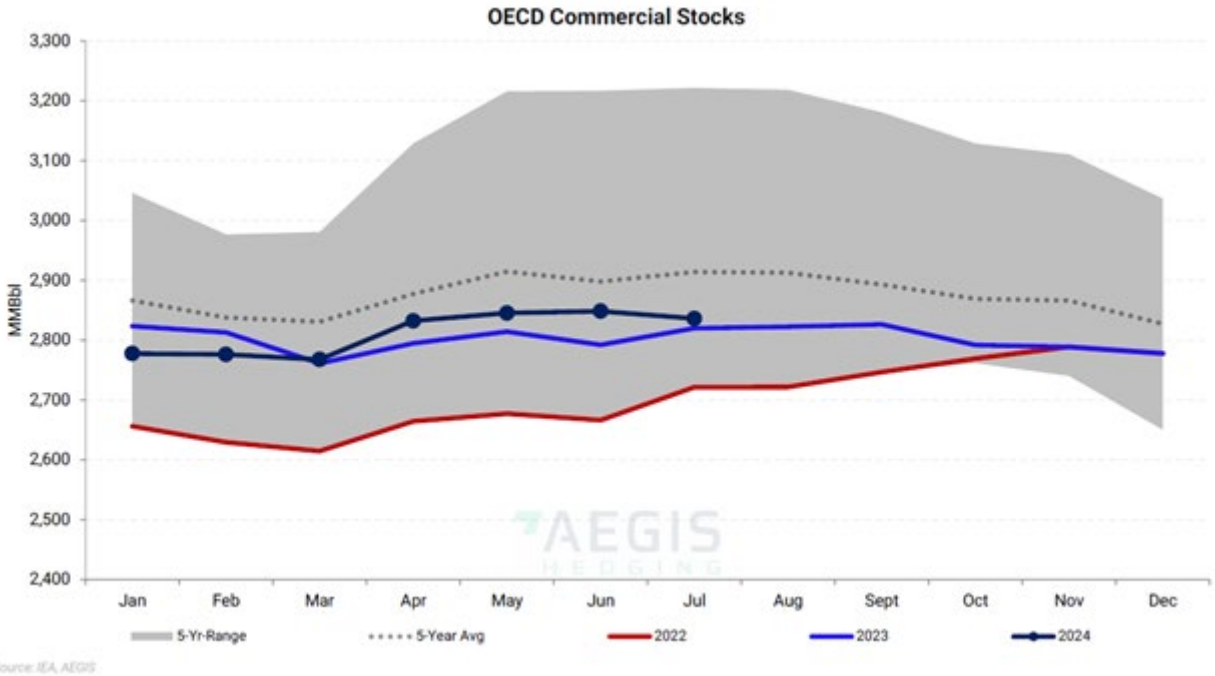
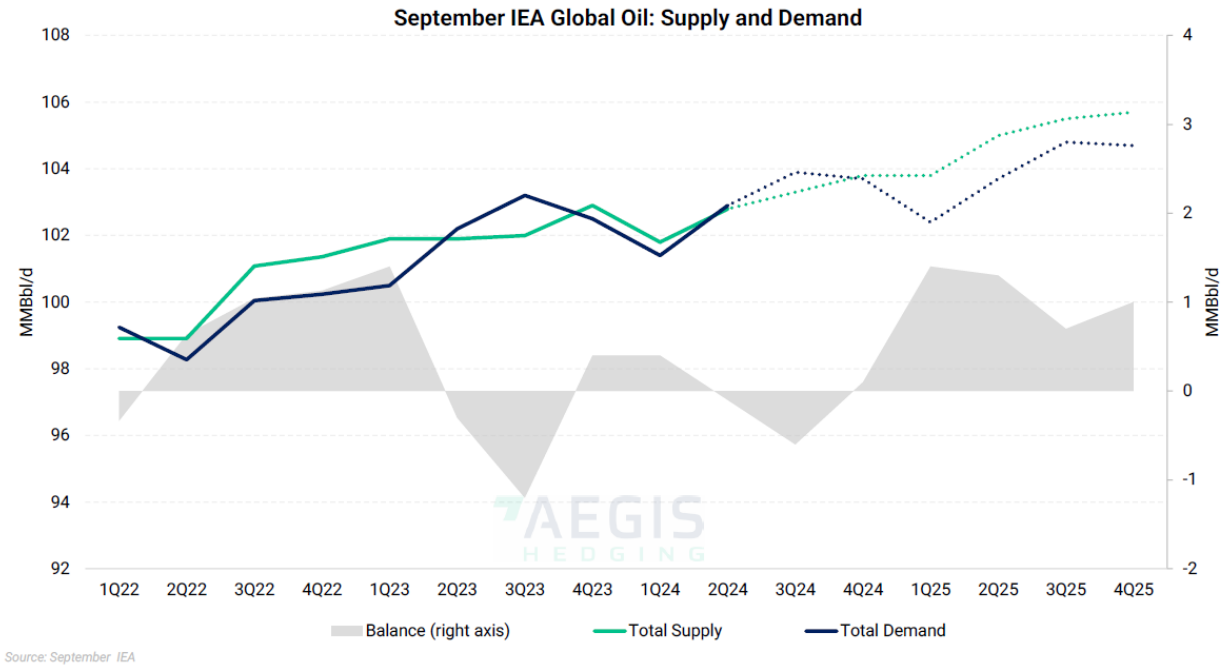


Figure 15: IEA Global Oil: Supply and Demand (Source: IEA, via Aegis)



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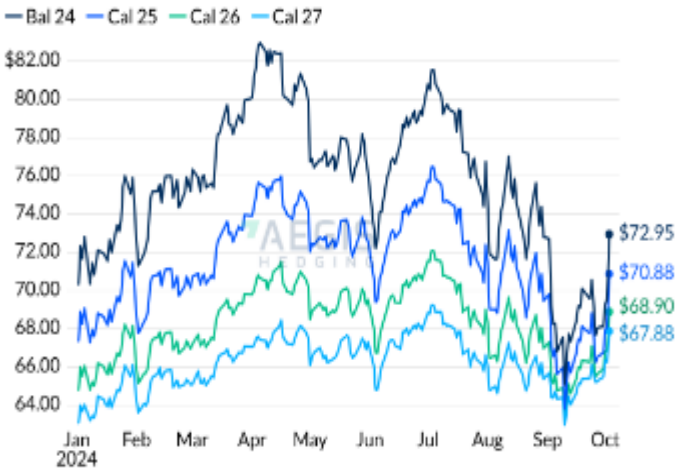
Gas and Oil Prices 1 October 2024

Historical WTI CMA Calendar Strips

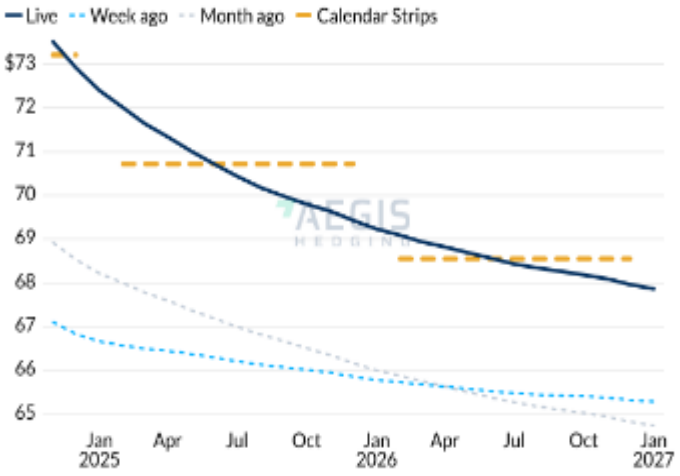


As of yesterday's settle

Historical Natural Gas Strips

As of yesterday's settle

WTI CMA Calendar Strips



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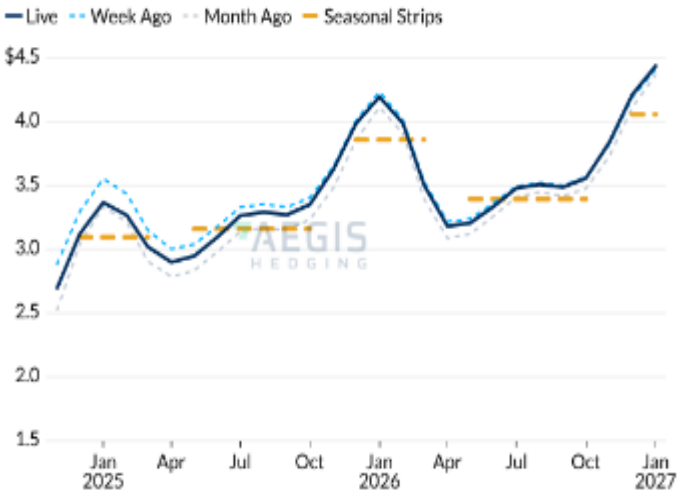
Henry Hub Seasonal Strips



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Crude Oil Swap Pricing

	Bal 24	Cal 25	Cal 26
NYMEX WTI	$73.83	$71.14	$68.72
LLS	$75.91	$73.67	$71.52
Mars	$72.45	$69.96	$66.96
Dubai	$76.82	$74.66	$72.98
WCS-WTI	-$13.54	-$13.89	-$16.40
ICE Brent	$77.68	$75.46	$73.39
Dated Brent	NaN	$75.53	$73.30
West TX Sour (WTS)	$73.62	$70.59	$68.21

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Natural Gas Basis Swap Pricing

	Month 1	Summer 25	Winter 24/25	Summer 26	Winter 25/26
Henry Hub Fixed	$2.660	$3.160	$3.089	3	$3.856
Panhandle East	-$0.405	$-0.515	$0.117	-1	$0.087
Eastern Gas South	-$0.800	$-0.927	$-0.634	-1	$-0.803
Waha	-$1.025	$-1.214	$-0.785	-1	$-1.157
TETCO M3	-$0.603	$-0.780	$0.539	-1	$0.587
Houston Ship Channel	-$0.380	$-0.438	$-0.310	-0	$-0.430

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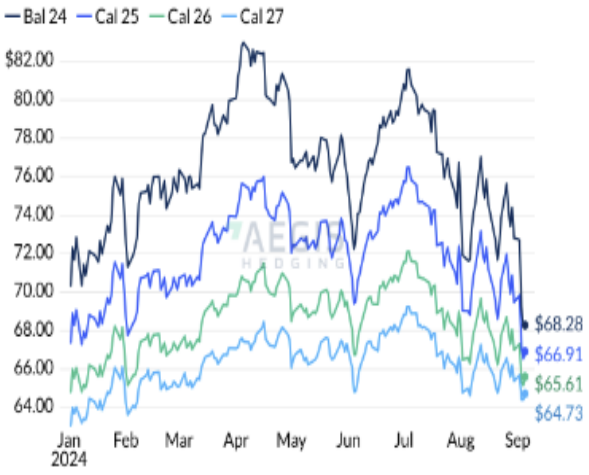
Historical WTI CMA Calendar Strips

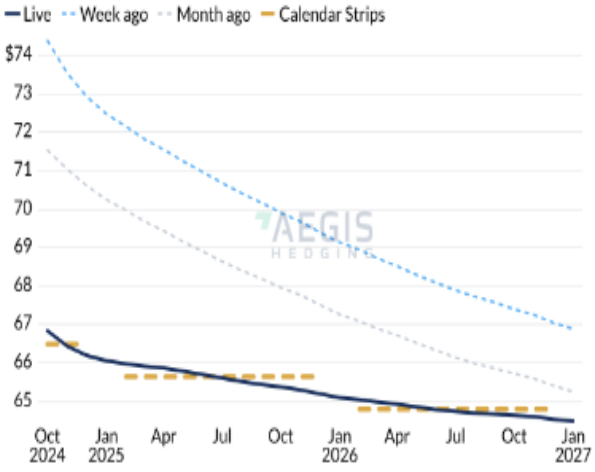


As of yesterday's settle

Historical Natural Gas Strips

As of yesterday's settle

WTI CMA Calendar Strips



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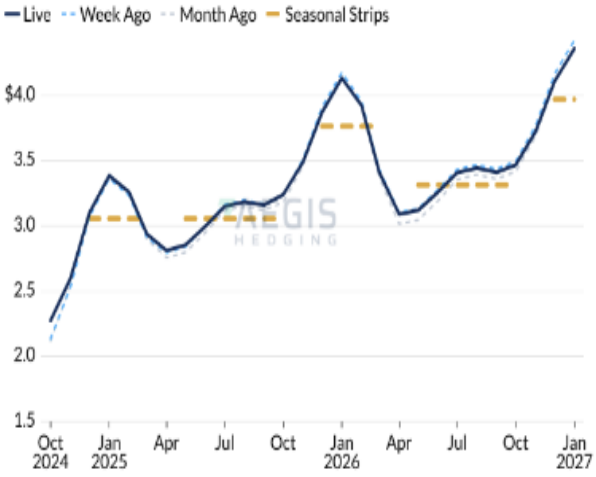
Henry Hub Seasonal Strips



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Crude Oil Swap Pricing

	Bal 24	Cal 25	Cal 26
NYMEX WTI	$68.79	$67.25	$65.82
LLS	$71.67	$69.80	$68.61
Mars	$68.19	$66.79	$64.08
Dubai	$72.20	$70.43	$69.34
WCS-WTI	-$16.00	-$14.79	-$16.29
ICE Brent	$72.71	$71.59	$70.42
Dated Brent	NaN	$71.46	$70.30
West TX Sour (WTS)	$68.80	$66.99	$65.33

Natural Gas Basis Swap Pricing

	Month 1	Summer 24	Winter 24/25	Summer 25	Winter 25/26
Henry Hub Fixed	$2.123	$2.185	$3.098	$3.081	$3.639
Panhandle East	-$0.480	$-0.528	$0.118	$-0.555	$-0.127
Eastern Gas South	-$0.760	$-0.848	$-0.728	$-0.975	$-1.003
Waha	-$2.698	$-2.271	$-0.802	$-1.378	$-1.149
TETCO M3	-$0.690	$-0.784	$0.443	$-0.826	$0.134
Houston Ship Channel	-$0.283	$-0.377	$-0.282	$-0.439	$-0.330

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