



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 were low for most of August with high storage volumes offsetting relatively strong air-conditioning driven demand for gas generated electricity. Month on more the prompt rose modestly from \$2.03/mmbtu at close on 31 July to \$2.13/mmbtu at close on 30 August. Calendar 2024 was also slightly stronger, beginning August at \$2.51/mmbtu and closing at \$2.56/mmbtu.

Oil prices fell with concerns over reduced GDP growth in China, the largest international oil market. The prompt began August at \$77.91/bbl and closed the month at \$73.55/bbl. Calendar 2024 started the month at \$76.59/bbl and closed at \$72.44/bbl.

ExxonMobil (Exxon) has released an outlook for global energy from now until 2050. The executive summary of the outlook concludes:

Modern living standards are made possible by ready affordable access to energy. For the billions of people without that access even the most basic tasks of life can be extremely challenging. Looking out to 2050, the global population will continue to grow, adding to the demand for energy.

To measure the average quality of life by country, the United Nations created the Human Development Index (HDI). Scores are based on three factors: life expectancy, education, and income.

Using HDI data from 2022, Exxon has determined a “modern energy minimum” standard of average energy use per capita of at least 50 mmbtu per year. Note that the World Bank assesses this threshold of energy availability for basic necessities of modern life to be 100 mmbtu per year.

Today about 4 billion people live below the 50 mmbtu per year modern energy minimum (Figure 1). Developed countries around the world use, on average, more than three times that amount (Figure 2).

Figure 1: 2022 UN Human Development Index (Source: various, via Exxon)

More than 4 billion people live below modern standards for life expectancy, education, and income

U.N. Human Development Index
2022 Index

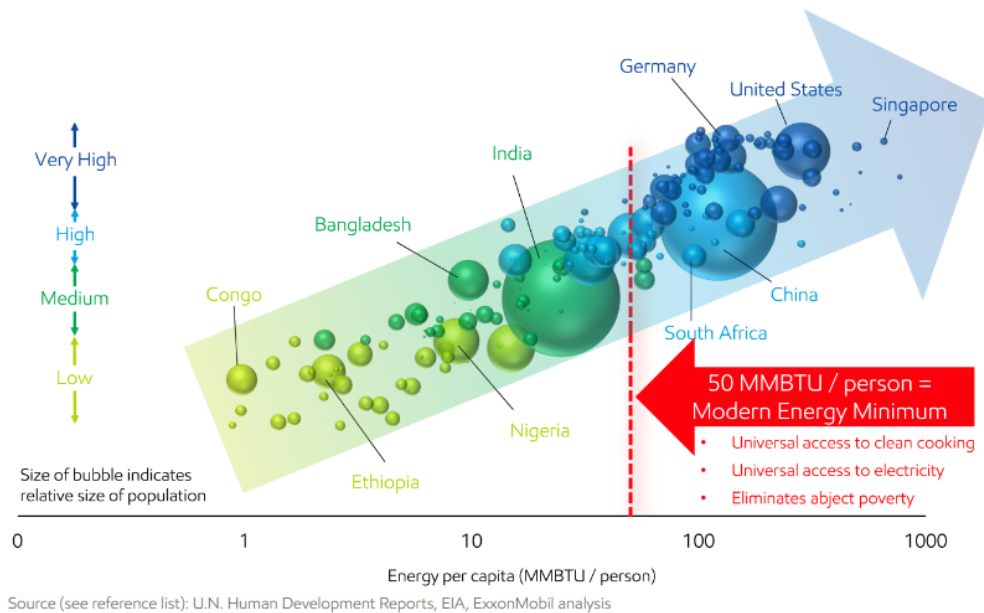
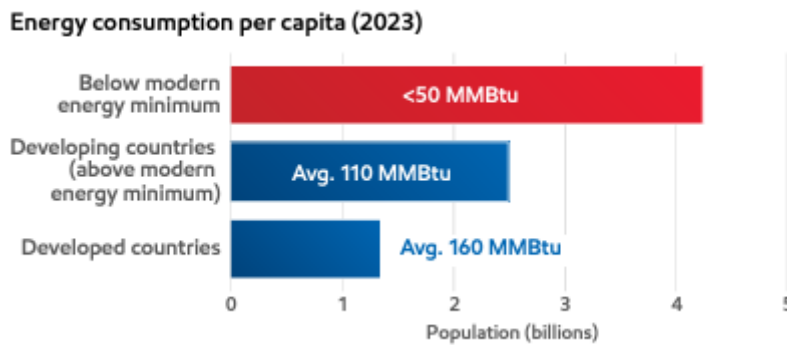
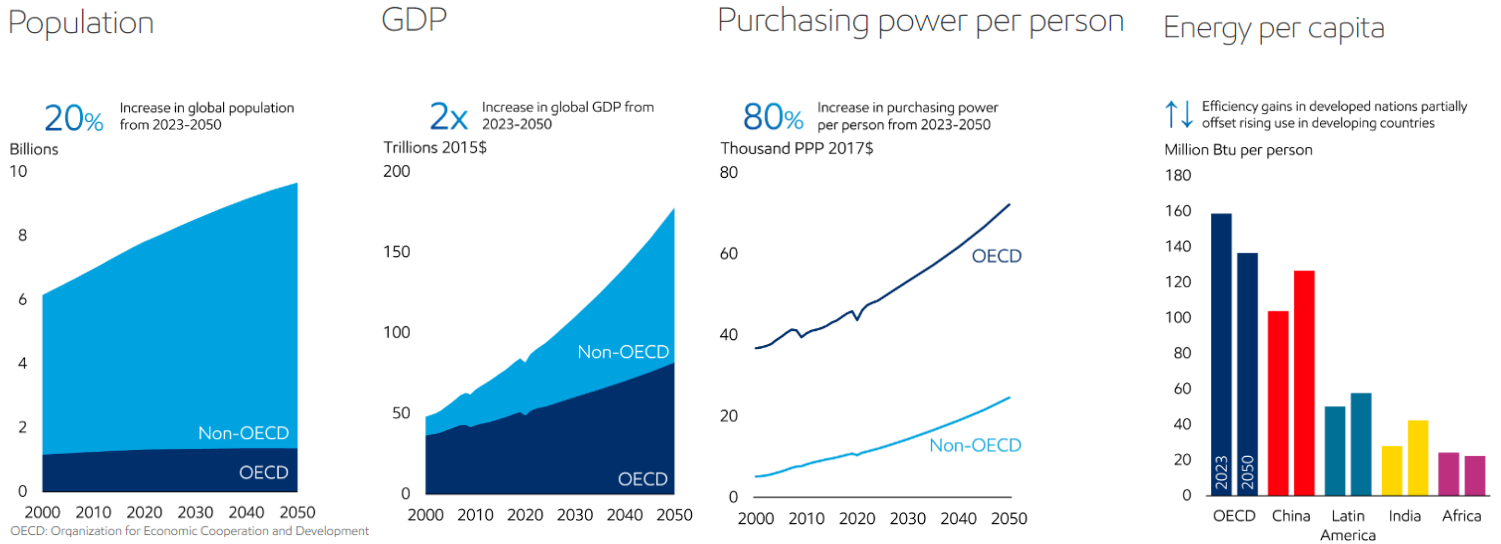


Figure 2: Energy Consumption per capita 2023 (Source: Exxon)



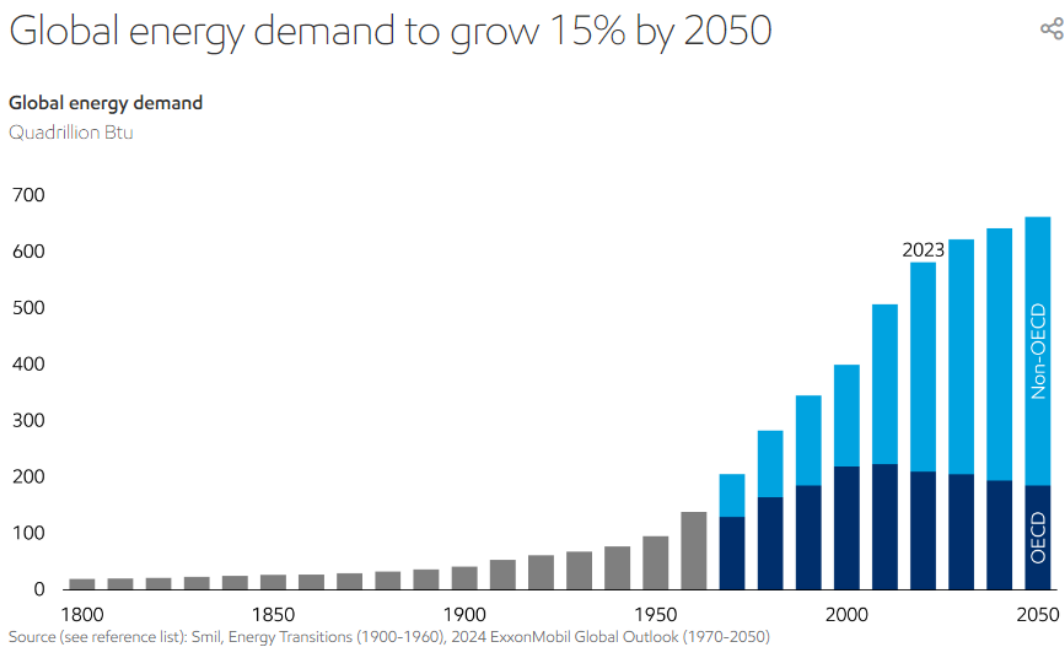
Projections provided in Figure 3 are that global population will increase by 20% from 2023 to 2050, with substantially all that growth occurring in non-OECD countries, global GDP will double in the period, purchasing power per person will increase by 80% and growing energy use in developing countries will be partially offset by efficiency gains induced fall in per capita energy use in the developed countries.

Figure 3: Projections 2023 to 2050 (Source: Exxon)



Driven by population and rising prosperity in developing nations, aggregate global energy demand is projected to grow 15% by 2050 (Figure 4).

Figure 4: Global Energy Demand (Source: various, via Exxon)



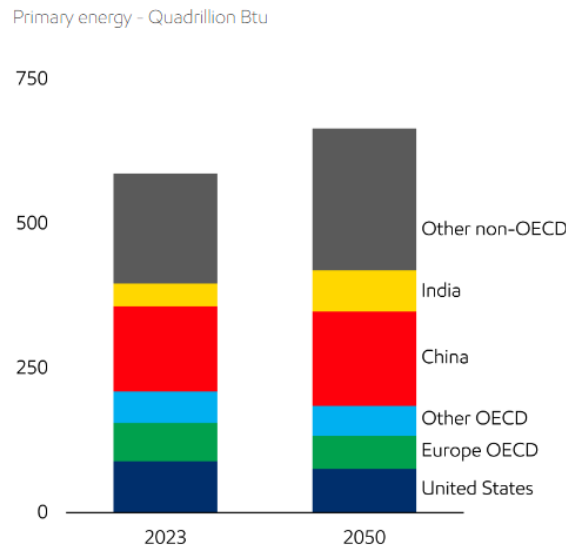
Electricity generation, transportation and industry are the core areas of growing energy demand.

- Global electricity demand nearly doubles by 2050, as electrification increases in buildings, industrial manufacturing, and transportation.
- Energy demand for transportation grows more than 20% to 2050. The biggest growth is in commercial transportation such as trucks, shipping, and aviation, while passenger cars continue to make up ~30% of demand in 2050.
- Industrial energy demand grows 20%, driven by heavy industry (steel, cement, metals, and manufacturing) and chemicals (plastics, fertiliser, and other chemical products)

Starting from a much lower level, it is unsurprising that developing countries lead energy demand (Figure 5).

Figure 5: Primary Energy Consumption 2023 and 2050 (Source: Exxon)

Developing countries lead energy demand



Oil, natural gas, and electricity contribute almost all the energy needed to partially replace coal and meet industrial energy growth to 2050 (Figure 6). Oil and natural gas are important feedstocks used to make products as well as provide high heat for large industrial processes. Electrification is well suited for lower temperature or less energy intensive applications.

Figure 6: World Energy Sources 2023, 2035 and 2050 (Source: Exxon)

Oil, natural gas, and electricity fuel industry growth

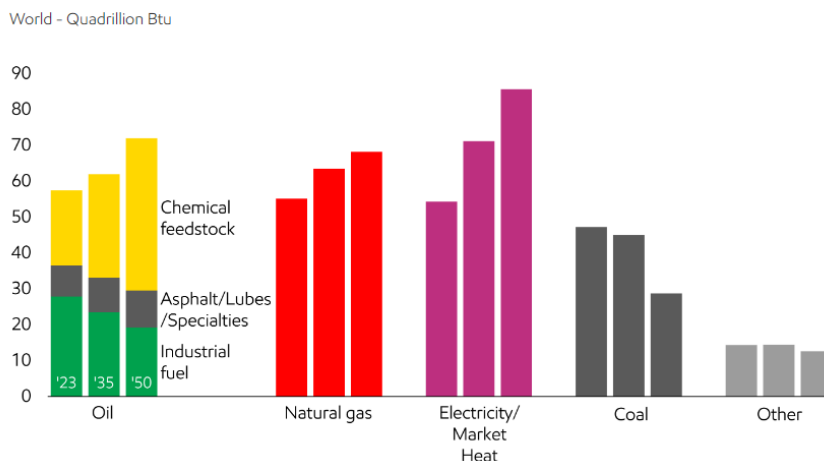
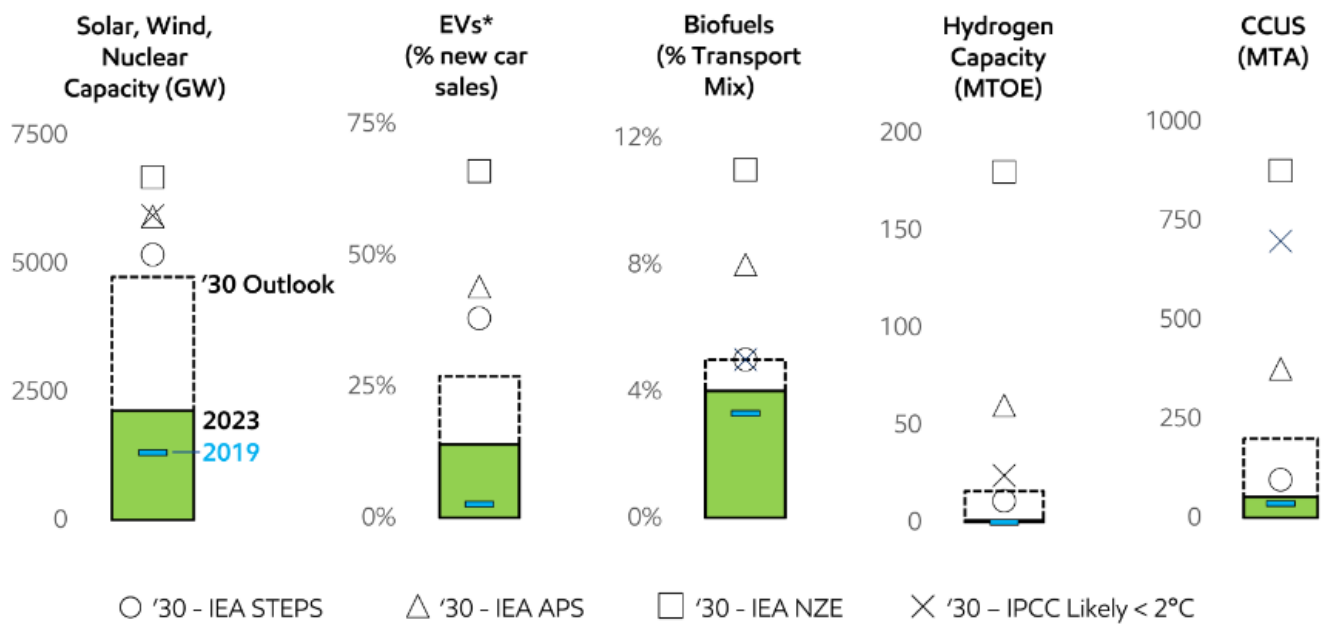


Figure 7 requires some focus to decode but contains valuable data. It provides a marker of the status in 2019 and 2023 together with outlook for 2030 of key elements in the energy transition as described by four scenarios:

- Intergovernmental Panel on Climate Change (IPCC) Likely Below 2°C
- 2023 International Energy Agency World Energy Outlook (IEA) Stated Policies Scenario (STEPS)
- IEA Announced Pledges Scenario (APS)
- IEA Net Zero Emissions by 2050 (NZE)

Figure 7: Progress in Energy Transition (Source: various, via Exxon)

Reducing emissions requires ALL viable technology



Source (see reference list): 2023 IEA World Energy Outlook; IPCC: AR6 Scenarios Database hosted by International Institute for Applied Systems Analysis (IIASA) release 1.0 average.

IPCC C3: "Likely Below 2°C" scenarios.

*EVs includes light duty battery electric, plug-in hybrid, and fuel cell electric vehicles.

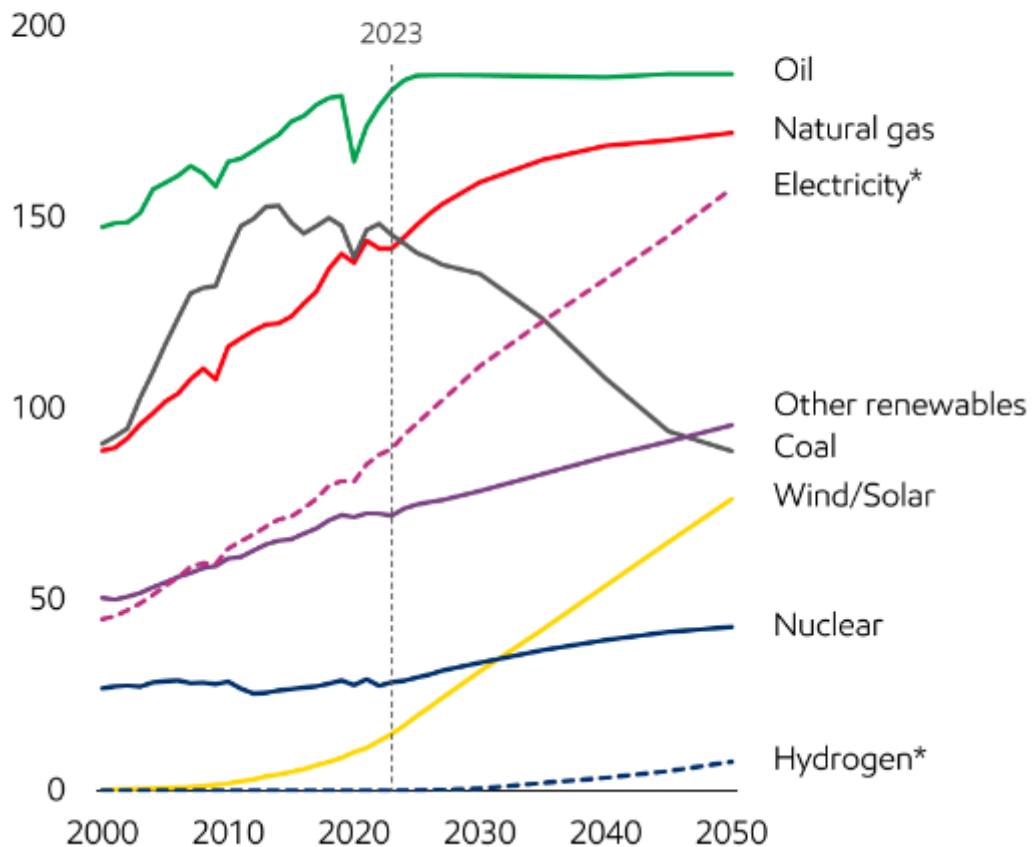
Assessing the components of the energy transition as posited by the IPCC and IEA, from 2019 to today, the most progress has been made in solar and wind deployment, EV sales, and biofuels, while carbon capture and storage and hydrogen have yet to show any meaningful progress at the global scale.

The energy mix in 2050 (Figure 8) sees oil and gas remain the largest energy sources. Electricity use growing in all sectors, coal displaced by lower-emission sources, including both renewables and natural gas, and commercial transportation and industrial feedstocks driving continued demand for oil.

Figure 8: Global Energy Demand by Fuel (Source: Exxon)

Global energy demand by fuel

Primary energy- Quadrillion Btu



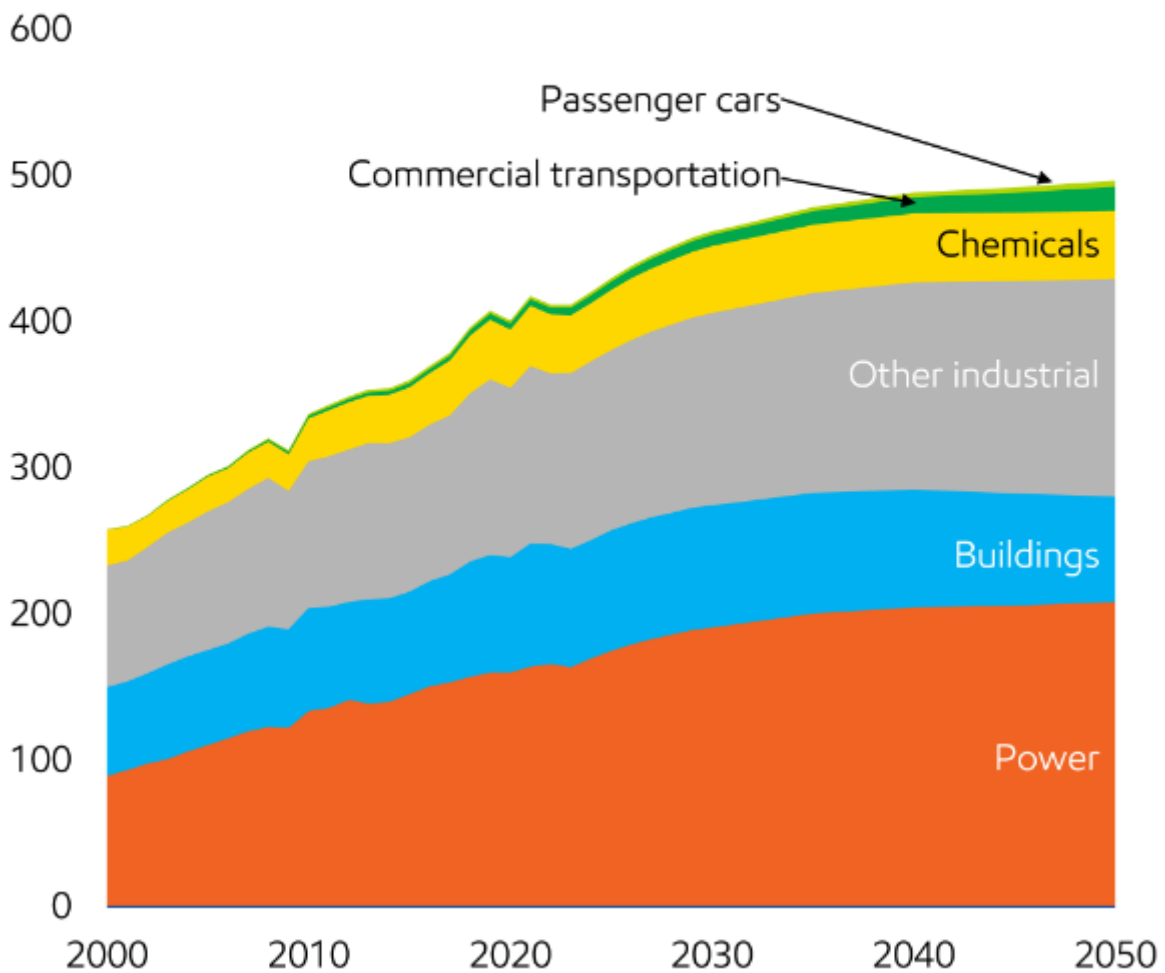
*Electricity and hydrogen are secondary energies derived from the primary energies shown.

Industrial activity and electricity generation will drive demand for natural gas (Figure 9).

Figure 9: Natural Gas Demand (Source: Exxon)

Natural gas demand

Billion cubic feet per day



Exxon concludes that significant new oil and natural gas supplies are needed to meet society's demand (Figures 10 and 11). Decline rates of existing fields are the biggest driver for new supply needed, and the reason significant investment is still required even before accounting for demand growth. The annual decline of existing supply is higher now than in the past, with increasing supply from unconventional resources, such as US shale, which decline faster than conventional oil and natural gas resources.

Figure 10: Global Natural Gas Projected Supply and Demand (Source: Exxon)

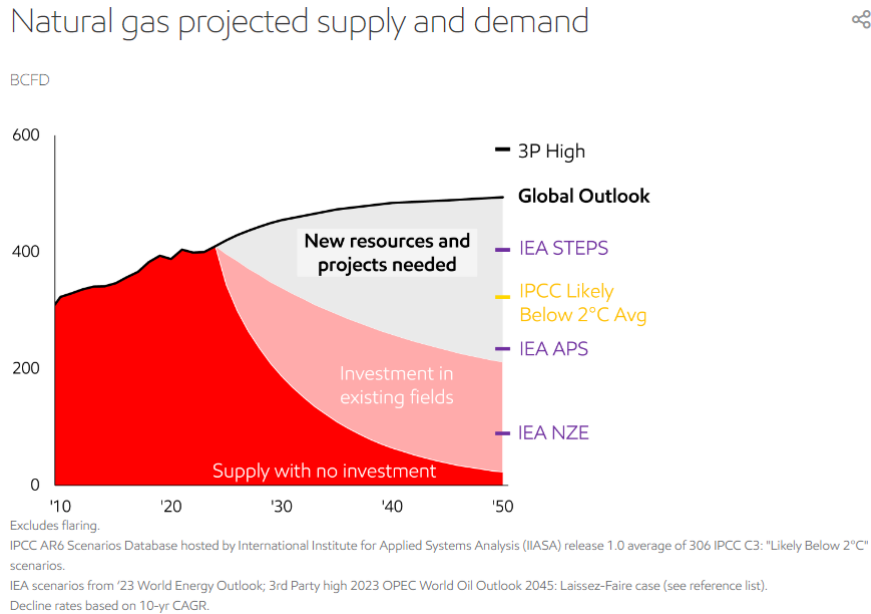
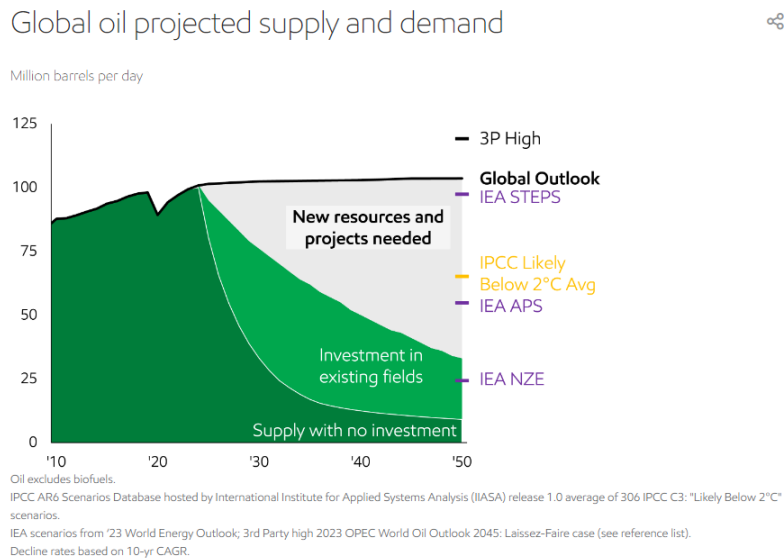



Figure 11: Global Oil Projected Supply and Demand (Source: Exxon)



In the absence of further investment, Exxon projects that natural gas supply would decline by ~11% per year and oil supply at ~15% per year, leading to major shortages of critical energy supplies. Contrast too Exxon's ground-up supply and demand scenario with those of IPCC and IEA based on achieving an energy transition. All scenarios require significant ongoing investment.



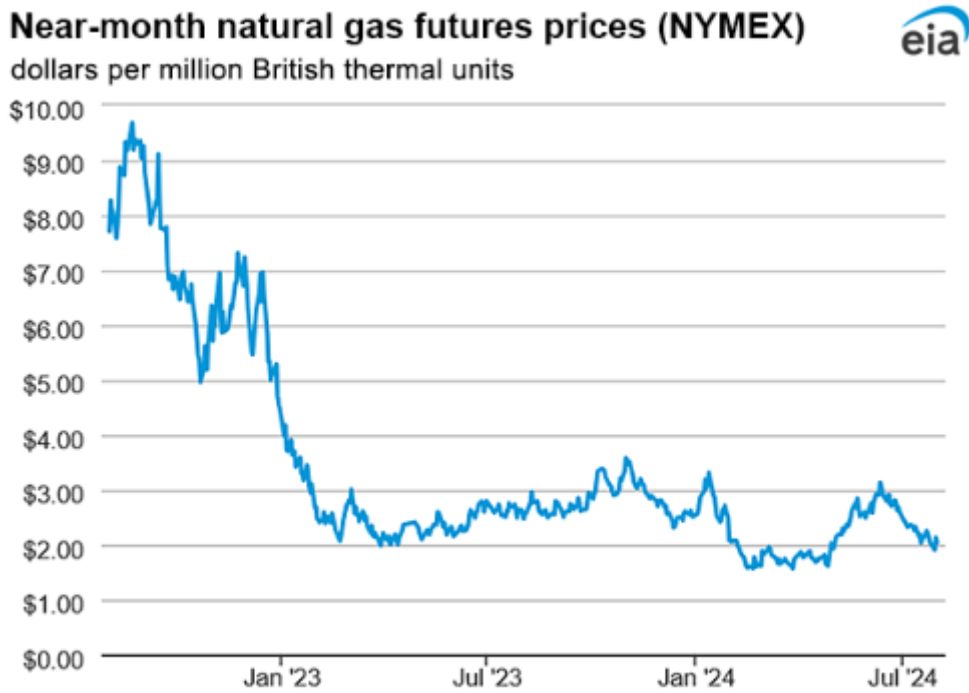
The latest Baker Hughes rig count data follows. In August US total land rigs fell by 3 from 566 to 563. Total oil rigs rose by 1 from 482 to 483 while gas rigs fell by 3 from 98 to 95. Oil and gas rig totals include 19 offshore rigs working in June.

 NORTH AMERICA Rotary Rig Count 30/08/2024					
Location	Week	+/-	Week	+/-	YearAgo
Inland Waters	1	1	0	-2	3
Land	563	-3	566	-48	611
Offshore	19	0	19	2	17
United States Total	583	-2	585	-48	631
Gulf of Mexico	17	0	17	1	16
Canada	220	1	219	33	187
North America	803	-1	804	-15	818
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Gas	95	-2	97	-19	114
Oil	483	0	483	-29	512
Miscellaneous	5	0	5	0	5
Directional	48	1	47	-3	51
Horizontal	521	-3	524	-45	566
Vertical	14	0	14	0	14

Gas Market

Henry Hub prompt prices rose modestly in August with relatively strong air conditioning driven power demand unable to materially offset the impact of relatively high storage volumes (Figure 12).

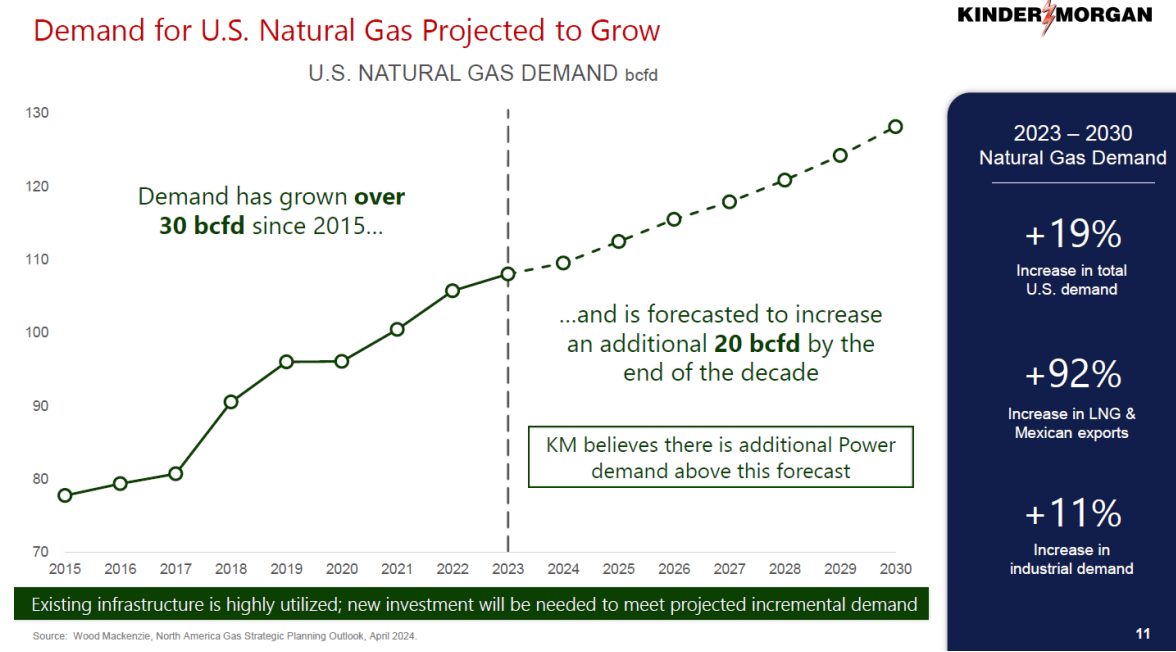
Figure 12: Near Month Henry Hub Futures (Source: EIA)



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

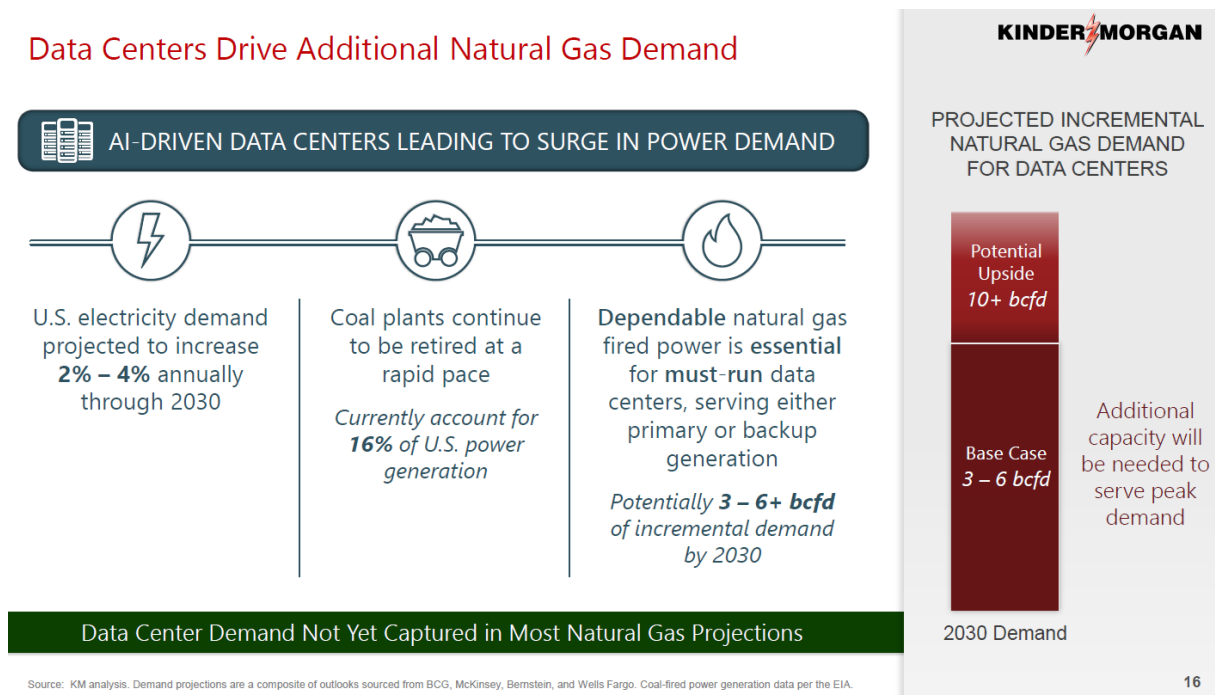
NYSE listed Kinder Morgan notes that US natural gas demand has grown by over 30 bcf/d since 2019 and is forecast to increase an additional 20 bcf/d by the end of the decade (Figure 13). Over the period 2023 to 2030 total US gas demand is forecast to grow by 19%, this is primarily driven by a 92% increase in LNG and Mexican exports.

Figure 13: US Natural Gas Demand (Source: WoodMac via Kind Morgan)



Base case forecasts estimate that 3 to 6 bcf/d of new natural gas demand will arise from AI-driven data centres, with new data centre demand not yet captured in most natural gas projections it is likely that there will be upside from these levels (Figure 14).

Figure 14: Demand Factors to 2030 (Source: Kinder Morgan)

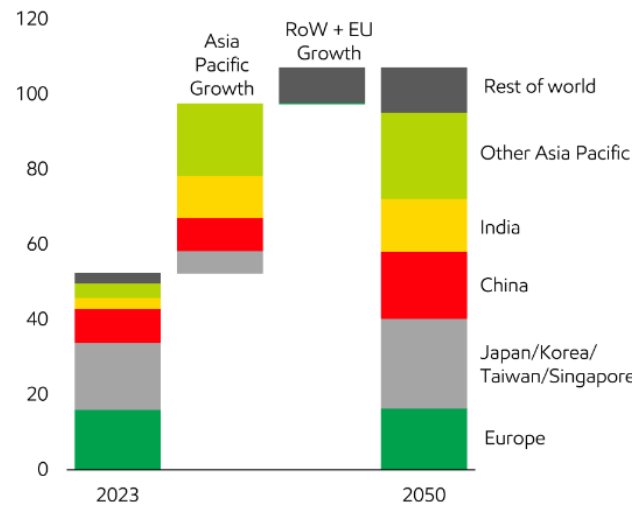


Data collected by Exxon shows the expected regional growth of LNG demand from 2023 to 2050 (Figure 15). The Asia Pacific provides most of the growth in LNG demand over the period.

Figure 15: LNG Imports by Region (Source: Exxon)

Asia Pacific and Europe benefit from LNG imports

Billion cubic feet per day



Supply for this growing LNG demand will primarily come from export capacity increases in North America (mostly the US) and the Middle East (mostly Qatar) (Figure 16).

Figure 16: LNG Exports by Region (Source: Exxon)

LNG exports by region

Billion cubic feet per day

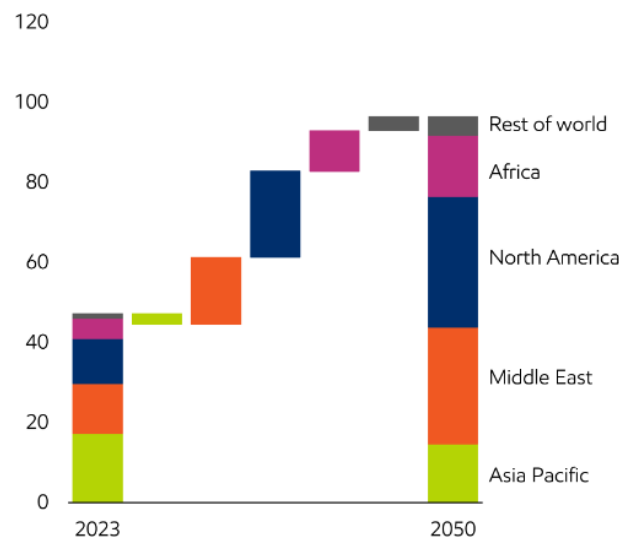


Figure 17 shows the current and under construction North American LNG export facilities. Facilities in Mexico will be supplied from the US.

Figure 17: North American LNG Export Facilities (Source: EIA)

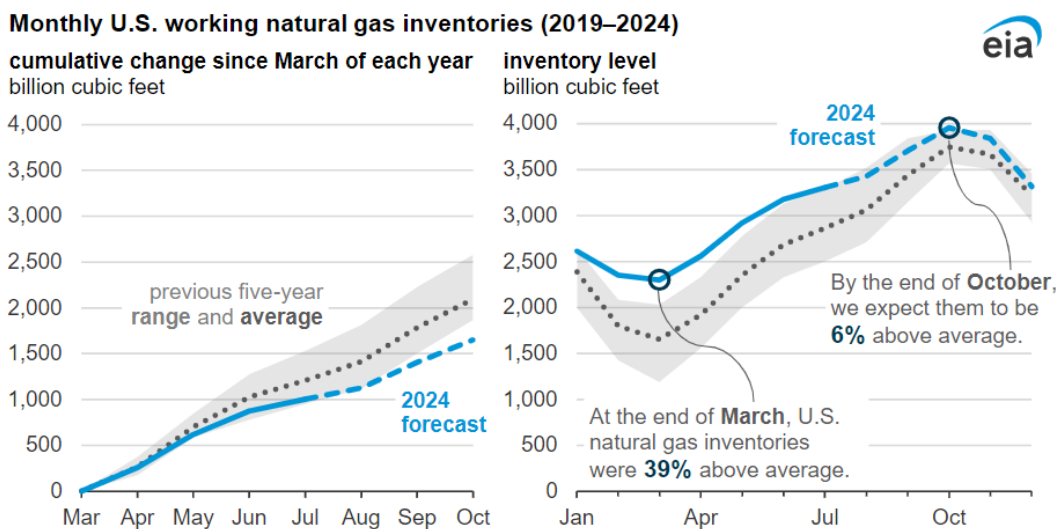
North America liquefied natural gas export facilities, existing and under construction (2016–2028)



Data source: U.S. Energy Information Administration, [Liquefaction Capacity File](#), and trade press
Note: Map current as of August 2024. LNG=liquefied natural gas; Bcf/d=billion cubic feet per day

The EIA forecasts that US working natural gas inventories will be 3,954 bcf by the end of October. The EIA expects that injections for the entire summer period will be lower than average because of high summer gas consumption and relatively flat production, this will see inventories fall from 39% above average in March to 6% above average by October (Figure 18).

Figure 18: Monthly US Working Natural Inventories (2019-2024) (Source: EIA)



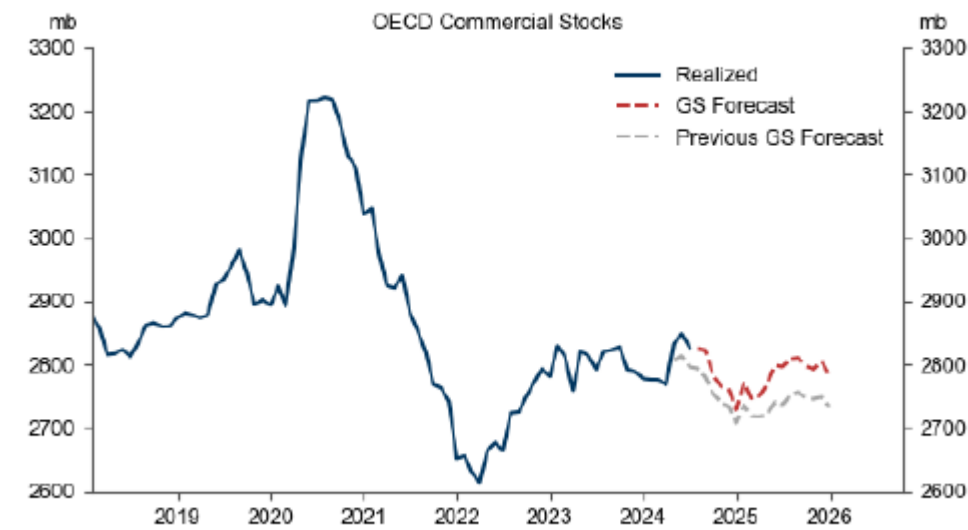
Data source: U.S. Energy Information Administration, [Short-Term Energy Outlook \(STEO\)](#), August 2024
Data values: U.S. Natural Gas Supply, Consumption, and Inventories

Oil Market

OECD commercial oil stocks have exceeded market expectations (Figure 19). As a result, Goldman expects that the 8 OPEC+ countries, which previously announced the 2.2mmbbl/d of extra voluntary production cuts will not be unwound as quickly as had been originally intended. OPEC+ had stated that a gradual unwind of these cuts would commence in October 2024. A delay would likely provide some support to oil prices.

Figure 19: OECD Commercial Oil Stocks (Source: IEA, via GS)

Exhibit 2: OECD Commercial Stocks Have Exceeded Our Expectations

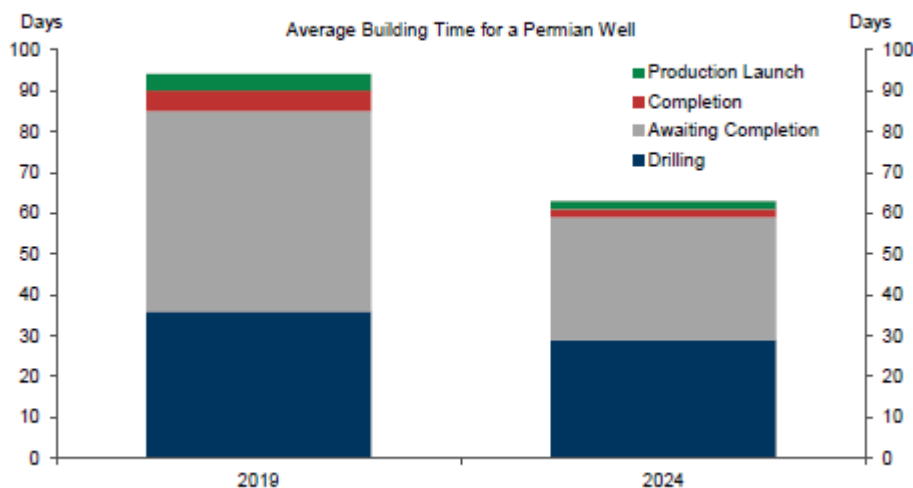


Source: IEA, Goldman Sachs Global Investment Research

The rise in US oil production, and decline in costs to deliver that production, has been driven by efficiency gains. Figure 20 illustrates the roughly 30 days that has been removed from the average time to prepare, drill and complete a well in the Permian Basin. The US offers attractive investment opportunities because of its highly efficient industry.

Figure 20: Average Building Time for a Permian Well (Source: various, via GS)

Exhibit 4: Efficiency Gains Raise the Speed of Building Wells and US Oil Production

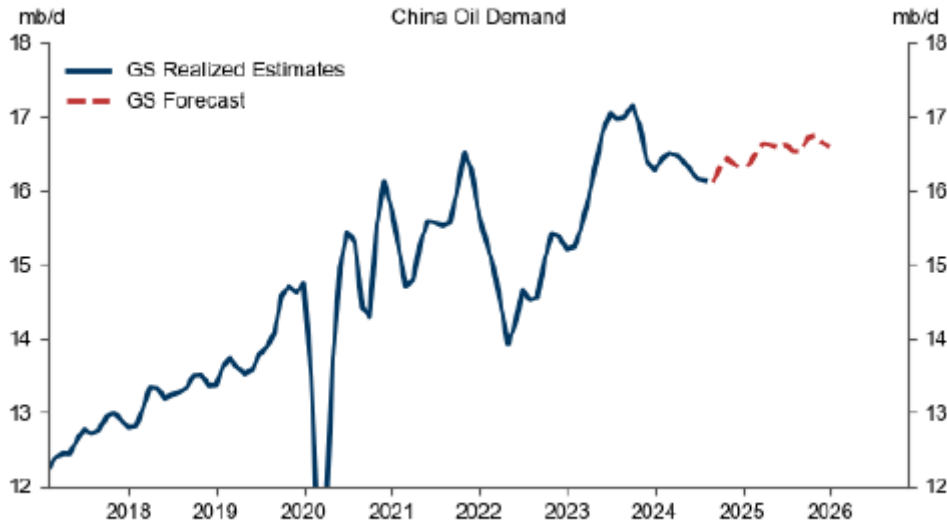


Source: Enverus, Platts, Goldman Sachs Global Investment Research

A leading cause for recent declines in the oil price has been a slowing Chinese economy. Growth in China oil demand has slowed in recent months (Figure 21).

Figure 21: China Oil Demand (Source: various, via GS)

Exhibit 7: China Oil Demand Growth Has Slowed Sharply

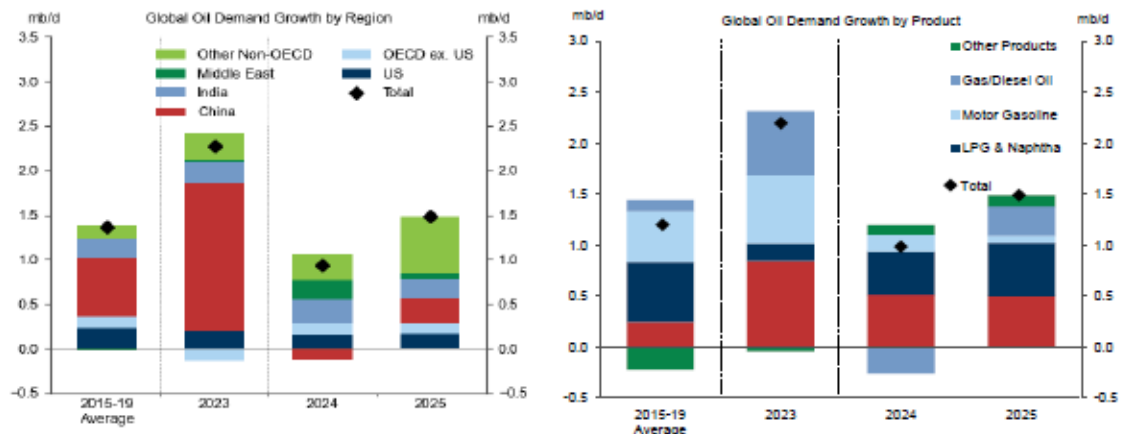


Source: GTT, Kpler, Oilchem, Mysteel, S&P Global, Goldman Sachs Global Investment Research

While the oil market is currently focused on China, Goldman expects global oil demand growth to pick up next year led by emerging markets and ongoing rises in jet fuel consumption (Figure 22).

Figure 22: Global Oil Demand Growth by Region and Product (Source: IEA, via GS)

Exhibit 8: We Expect Global Oil Demand Growth to Pick Up Next Year Led by EMs and Ongoing Rises in Jet Fuel



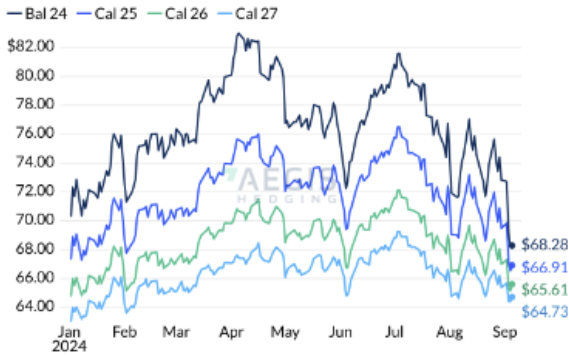
We use the IEA for 2015-2019 averages.

Source: IEA, Goldman Sachs Global Investment Research



Gas and Oil Prices 3 September 2024

Historical WTI CMA Calendar Strips



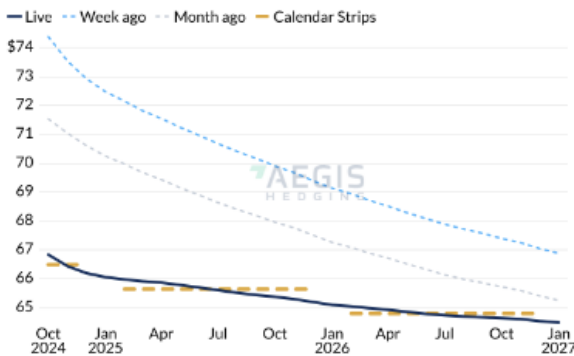
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Historical Natural Gas Strips



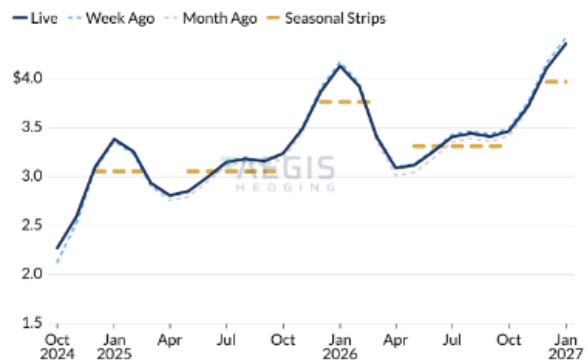
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WTI CMA Calendar Strips



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Henry Hub Seasonal Strips



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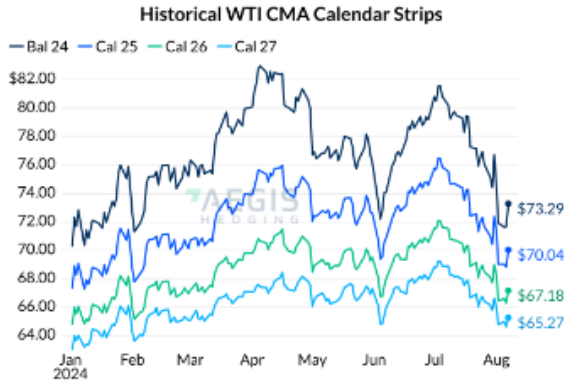
Crude Oil Swap Pricing

	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

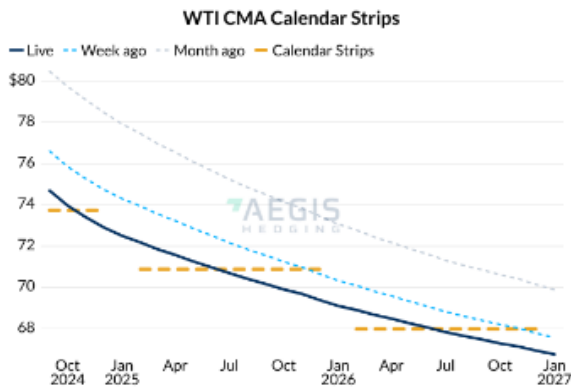
Natural Gas Basis Swap Pricing

	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

Gas and Oil Prices 1 August 2024



As of yesterday's settle



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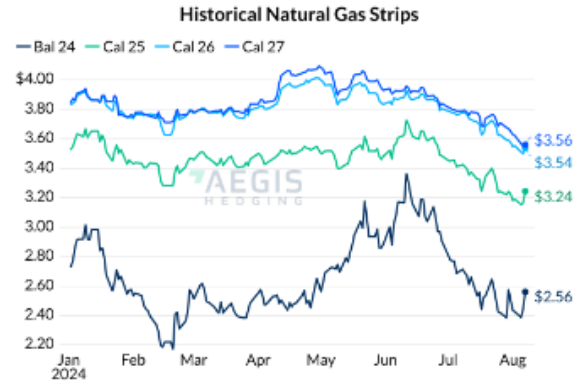
Crude Oil Swap Pricing

	Bal 24	Cal 25	Cal 26
NYMEX WTI	\$74.20	\$70.87	\$67.88
LLS	\$76.35	\$73.38	\$70.79
Mars	\$73.66	\$70.69	\$66.24
Dubai	\$76.89	\$74.41	\$72.12
WCS-WTI	-\$16.19	-\$14.67	-\$15.89
ICE Brent	\$78.02	\$75.29	\$72.59
Dated Brent	NoN	\$75.28	\$72.59
West TX Sour (WTS)	\$74.13	\$70.65	\$67.49

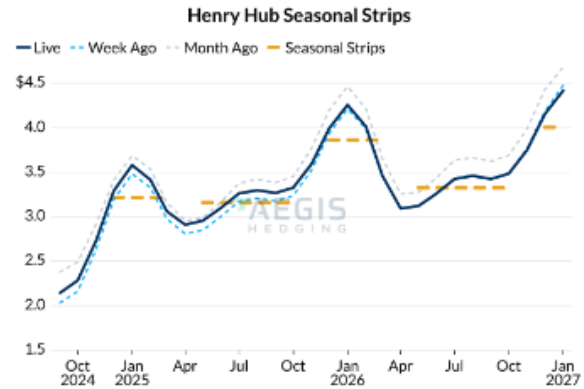
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Natural Gas Liquids

	Month 1	2024	2025	2026



As of yesterday's settle



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Natural Gas Basis Swap Pricing

	Month 1	Summer 24	Winter 24/25	Summer 25	Winter 25/26
Henry Hub Fixed	\$2.268	\$2.313	\$3.246	\$3.186	\$3.811
Panhandle East	-\$0.585	-\$0.694	\$0.119	-\$0.595	-\$0.134
Eastern Gas South	-\$0.785	-\$1.004	-\$0.753	-\$1.059	-\$1.009
Waha	-\$1.713	-\$1.534	-\$0.734	-\$1.176	-\$0.910
TETCO M3	-\$0.660	-\$0.916	\$0.518	-\$0.916	\$0.095
Houston Ship Channel	-\$0.355	-\$0.473	-\$0.265	-\$0.430	-\$0.314
Columbia Gulf Mainline	-\$0.335	-\$0.402	-\$0.241	-\$0.330	-\$0.316
NGPL TXOK	-\$0.415	-\$0.493	-\$0.273	-\$0.440	-\$0.325
SOCAL	-\$1.260	-\$0.186	\$2.036	\$0.504	\$1.580
AECO	-\$1.700	-\$1.658	-\$1.328	-\$1.409	-\$1.437
Chicago City-Gates	-\$0.415	-\$0.498	\$0.332	-\$0.380	\$0.064



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