LONGREACH ENERGY

Monthly Report

Longreach Energy Holdings LLC

April 2024

FIRM INFORMATION

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1.0 Market and Portfolio Commentary

1.1 Macro Industry Commentary

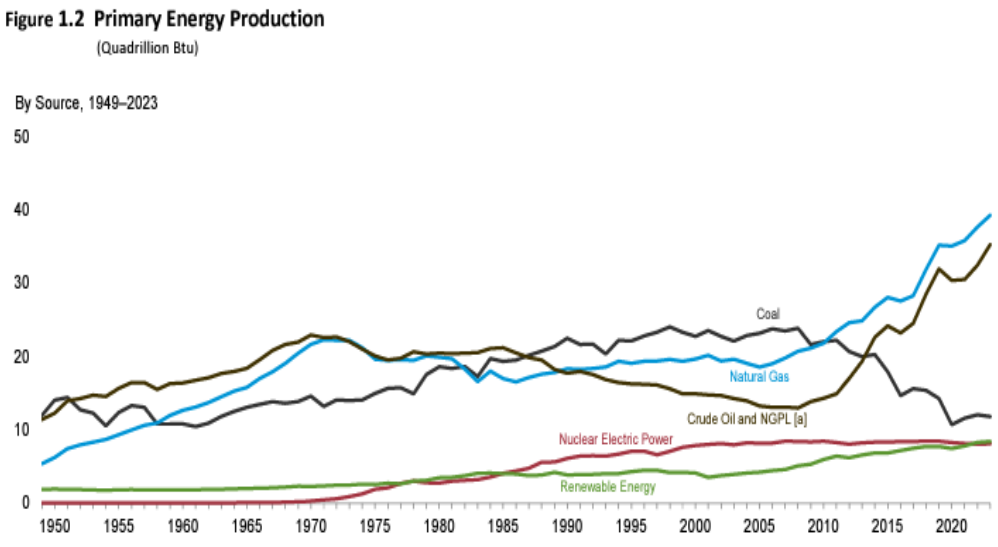
US Henry Hub prompt gas prices rose in April. The prompt was $1.76/mmbtu at close on 28 March and finished at $1.99/mmbtu at close on 30 April. Calendar 2024 also increased, beginning April at $2.48/mmbtu and closing at $2.61/mmbtu.

Oil prices fell modestly. The prompt began April at $83.17/bbl and closed the month at $81.93/bbl. Calendar 2024 started the month at $80.18/bbl and closed at $79.59/bbl.

The EIA's April monthly energy review provides an overview of energy production and consumption in the US.

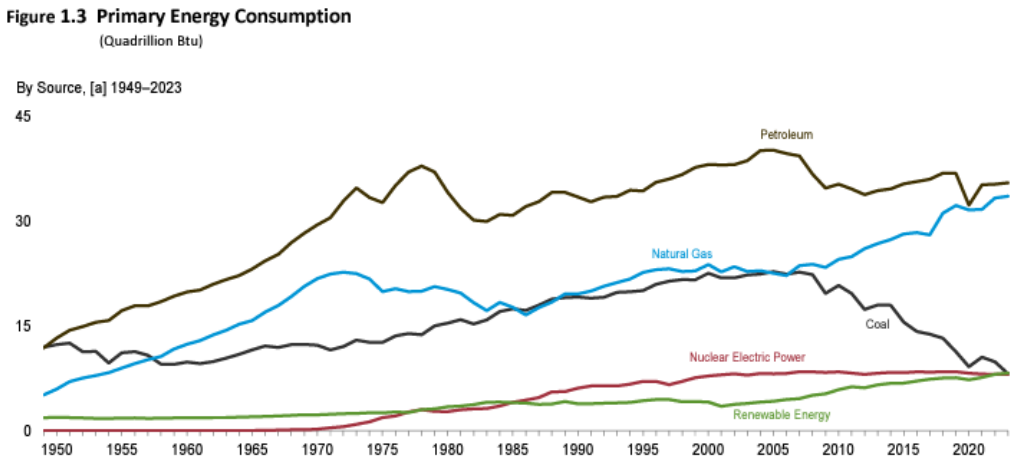
Natural gas and oil production continue to grow strongly, coal production has steadied after recent falls, nuclear is flat and renewables growing, albeit from a low base (Figure 1).

Figure 1: Near Month Henry Hub Futures (Source: EIA)



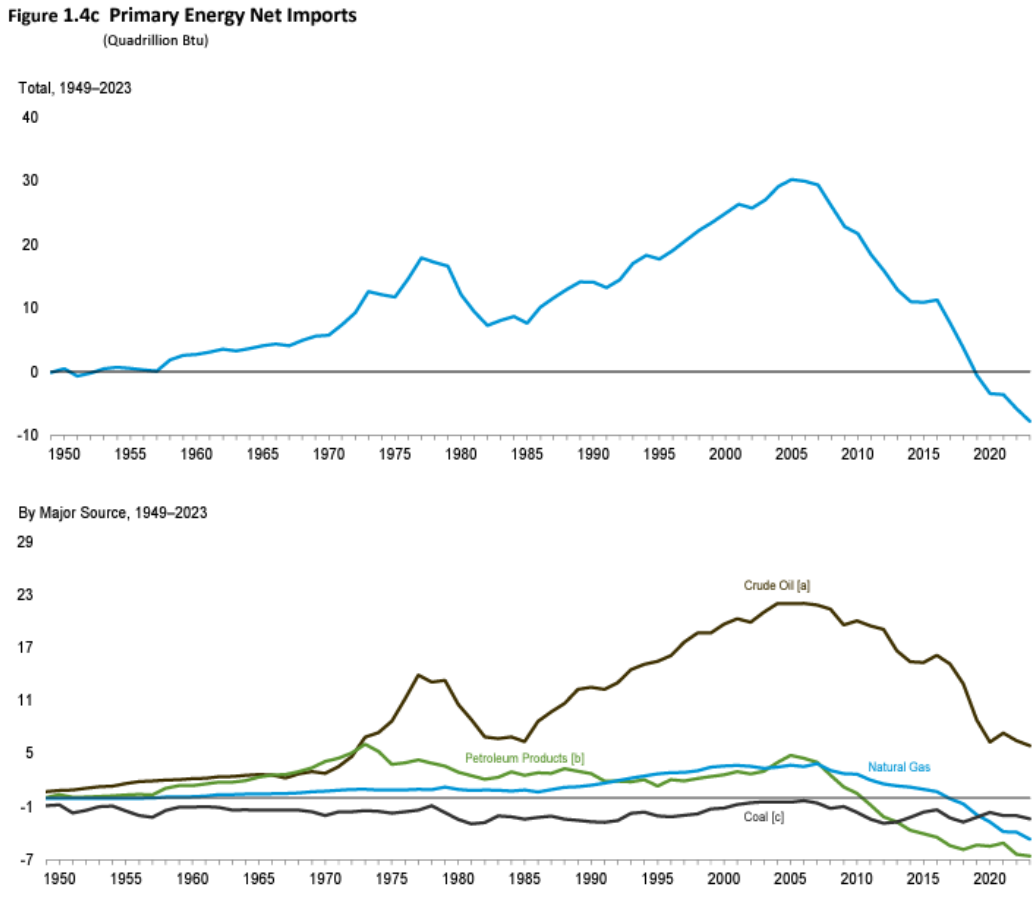
Similar trends are apparent for primary energy consumption although petroleum usage has been relatively stable for the last decade (Figure 2). The increase in domestic oil production has displaced oil imports. The rise in natural gas consumption since the mid 2000's has been strong.

Figure 2: US Primary Energy Consumption (Source: EIA)



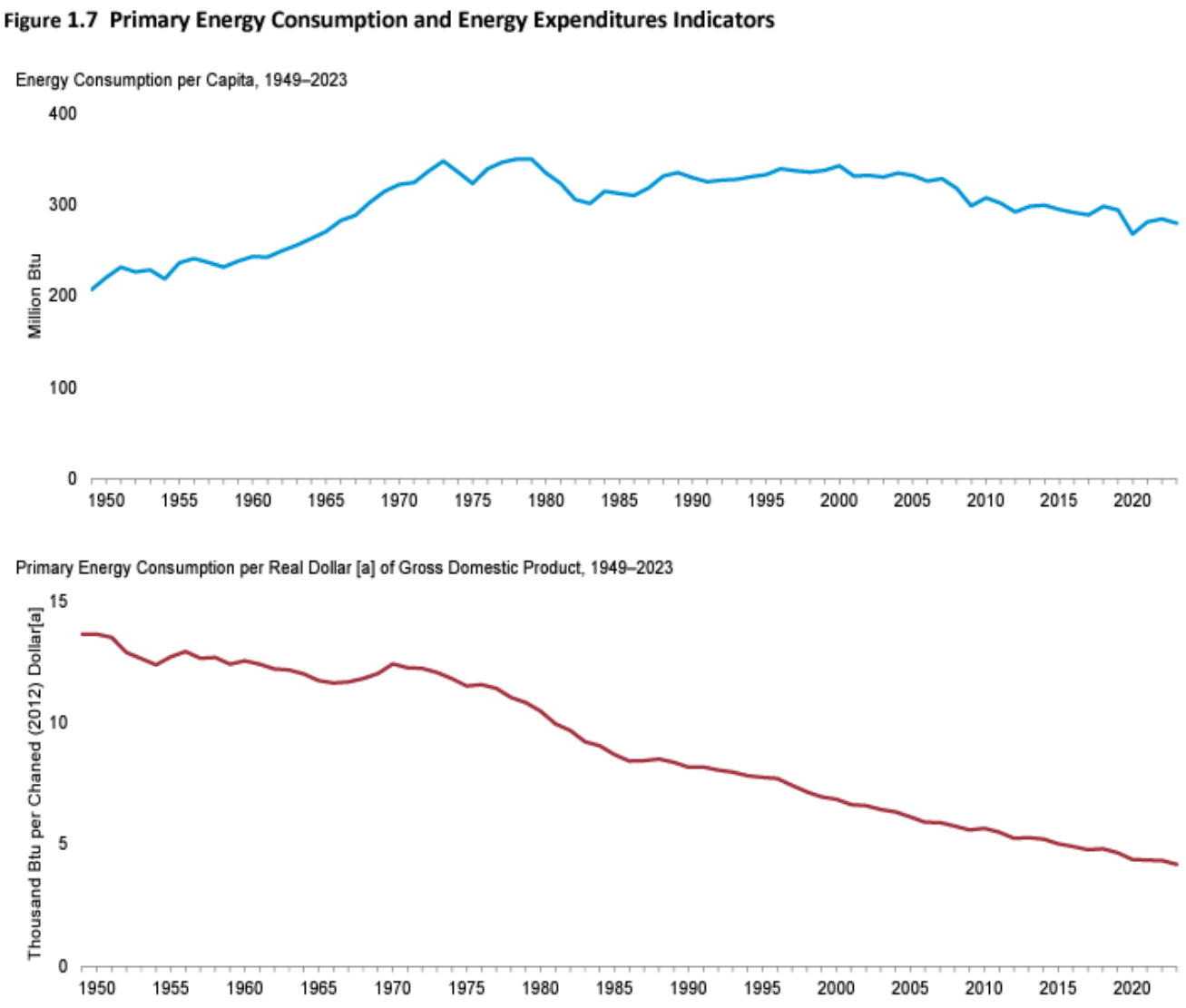
The US is now a steady net exporter of primary energy, a marked change from recent decades (Figure 3).

Figure 3: US Primary Energy Net Imports (Source: EIA)



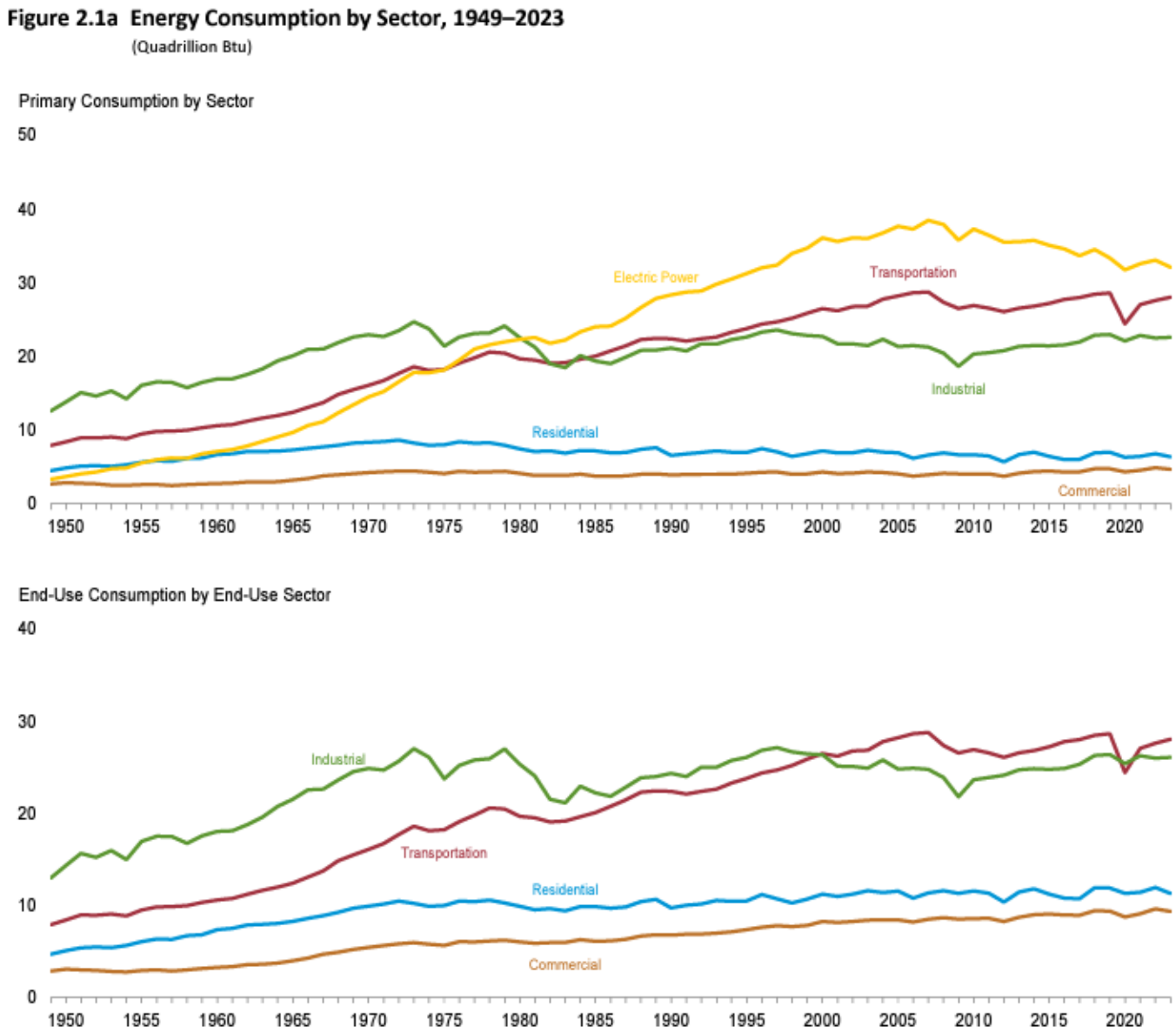
Per capita energy consumption has been on a gentle decline since the late 1990's while energy consumption against gross domestic product has fallen steeply, indicating much higher economy wide energy efficiency (Figure 4).

Figure 4: US Primary Energy Consumption and Energy Expenditure Indicators (Source: EIA)



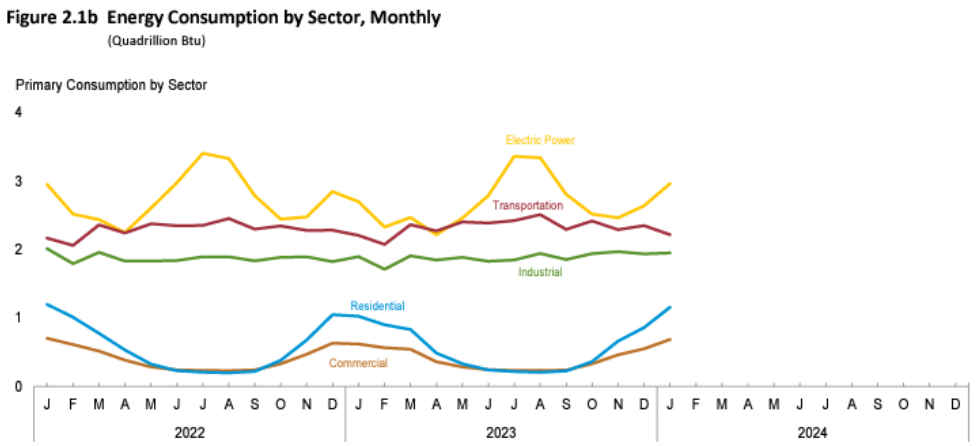
Electric power is the largest primary energy consuming sector, followed by transportation and industrial sectors (top, Figure 5). End-use consumption by transportation sector continues to grow steadily while other sectors are relatively flat over recent decades (bottom, Figure 5).

Figure 5: Primary and End-Use Consumption by Sector (Source: EIA)



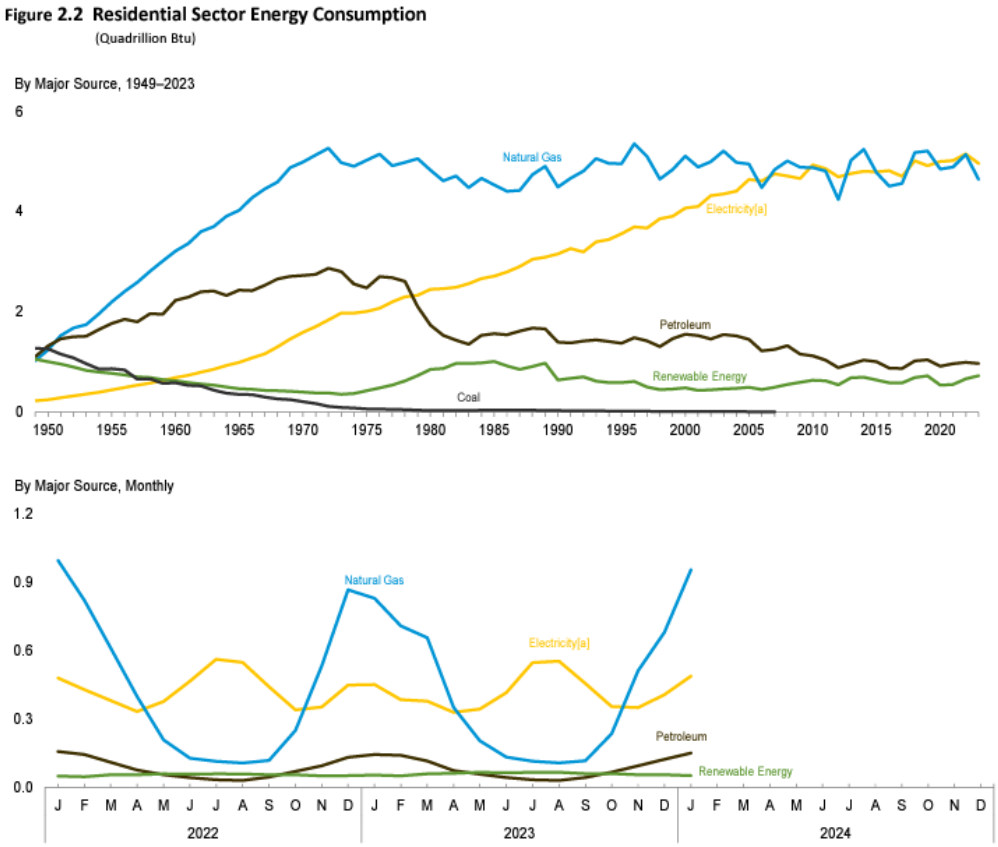
The seasonality of demand, with summer peaks due to cooling driven electric power consumption, and winter peaks in heating driven by residential and commercial consumption, are shown in monthly data (Figure 6).

Figure 6: Monthly Energy Consumption by Sector (Source: EIA)



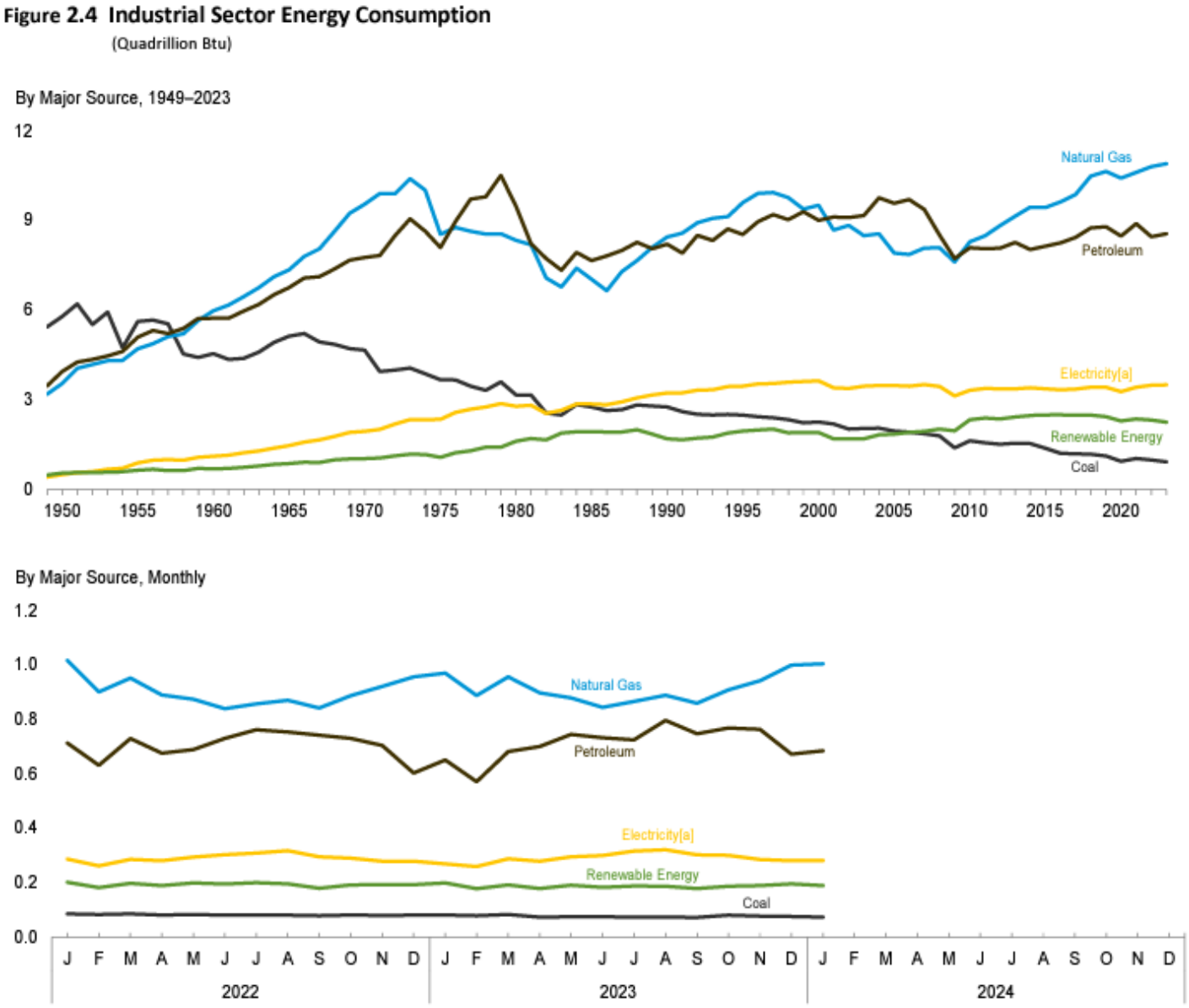
Month-to-month changes in residential and commercial sector energy consumption are driven by weather. The seasonal changes in source energy demand are shown in Figure 7 – natural gas provides heating in winter while electricity drives cooling in summer.

Figure 7: Residential Sector Energy Consumption (Source: EIA)



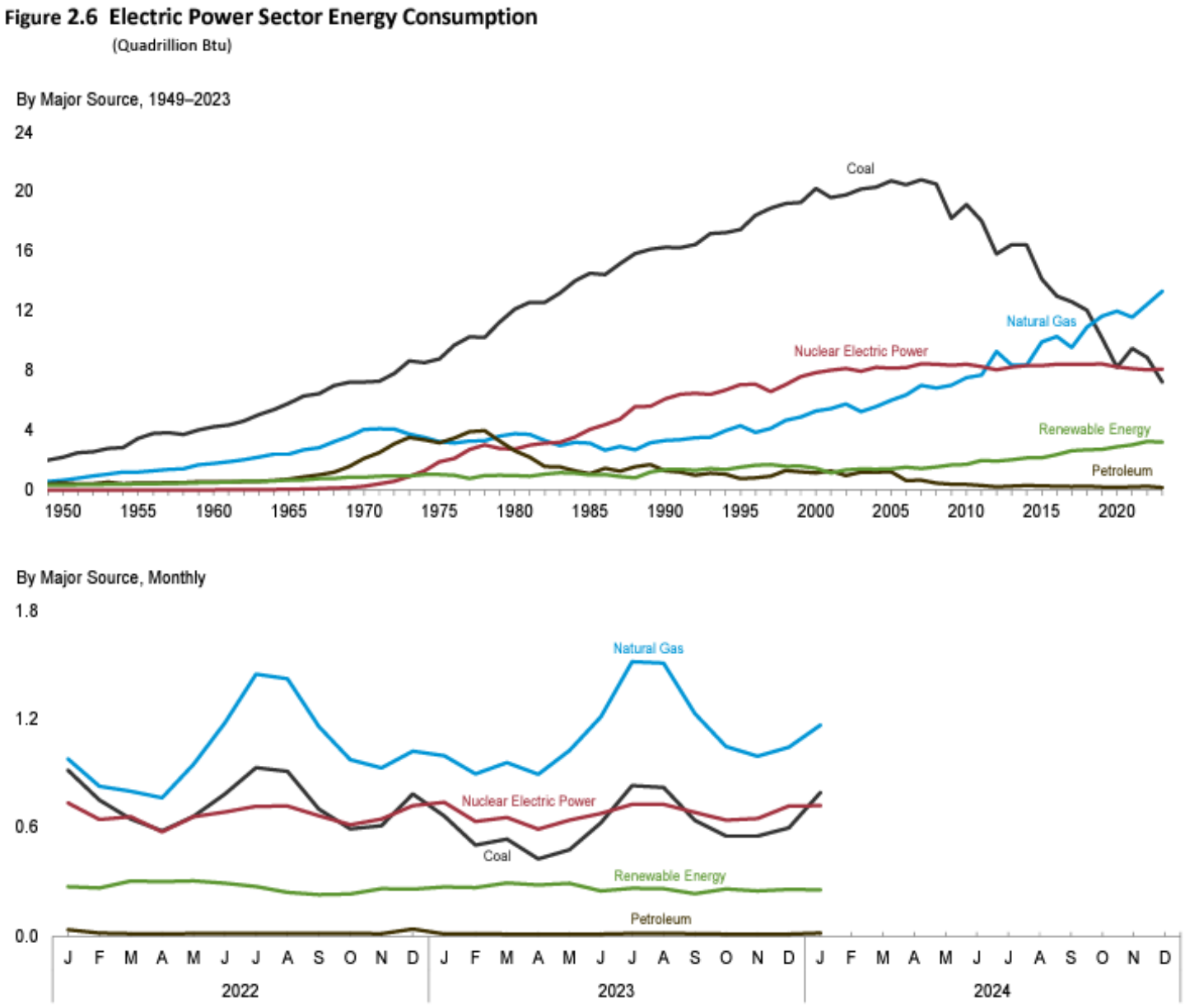
Industrial and transportation sector demand does not change with the weather (Figure 8). Natural gas use in the industrial sector has grown strongly in recent years and global industry responds to abundant, low-cost gas supply in the US.

Figure 8: Industrial Sector Energy Consumption (Source: EIA)



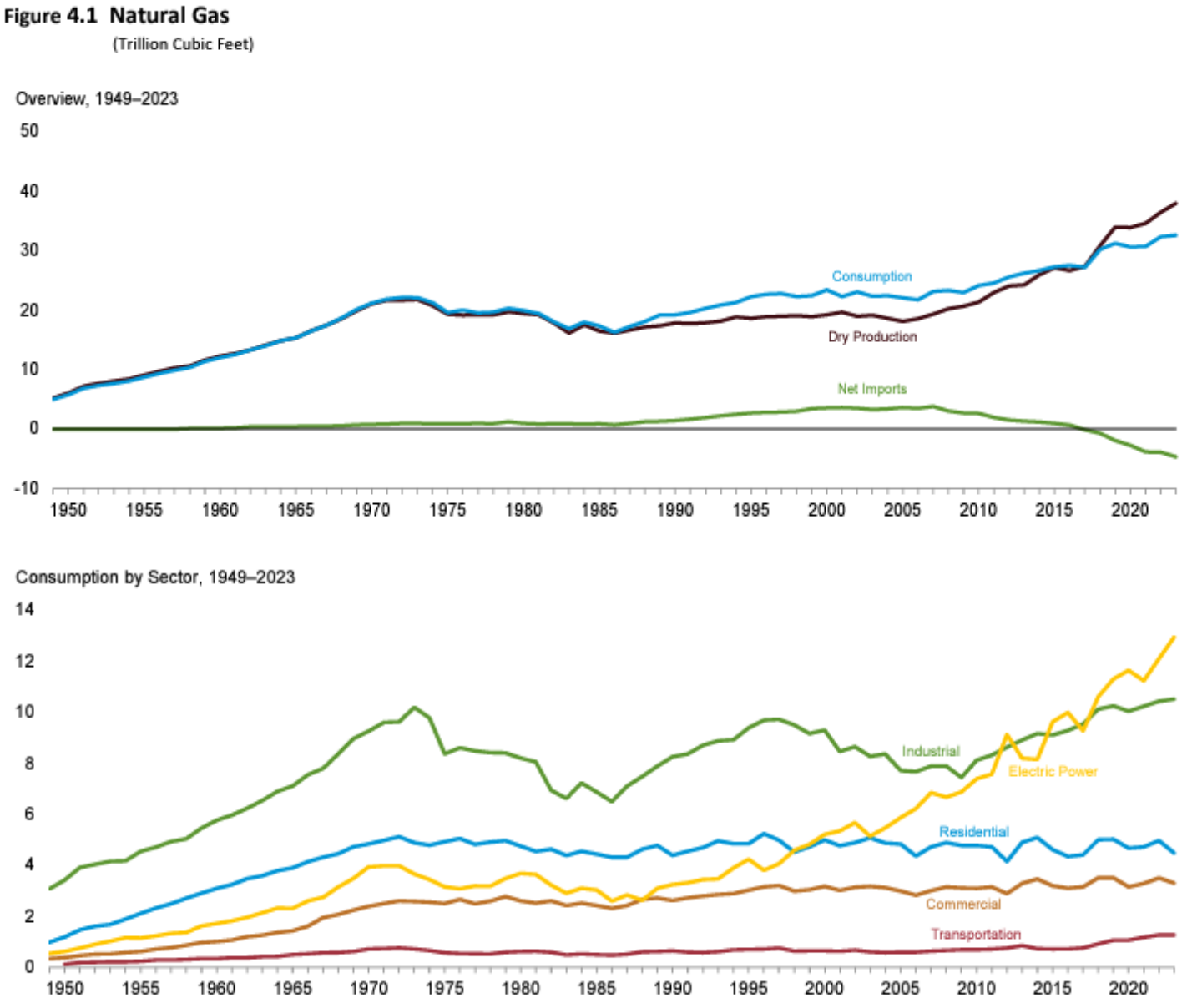
Natural gas is now the primary source of electric power. Coal has now fallen below nuclear to be the third largest electricity source (top, Figure 9). Summer peaks in electricity demand will drive more natural gas consumption (bottom, Figure 9).

Figure 9: Electric Power Energy Consumption (Source: EIA)



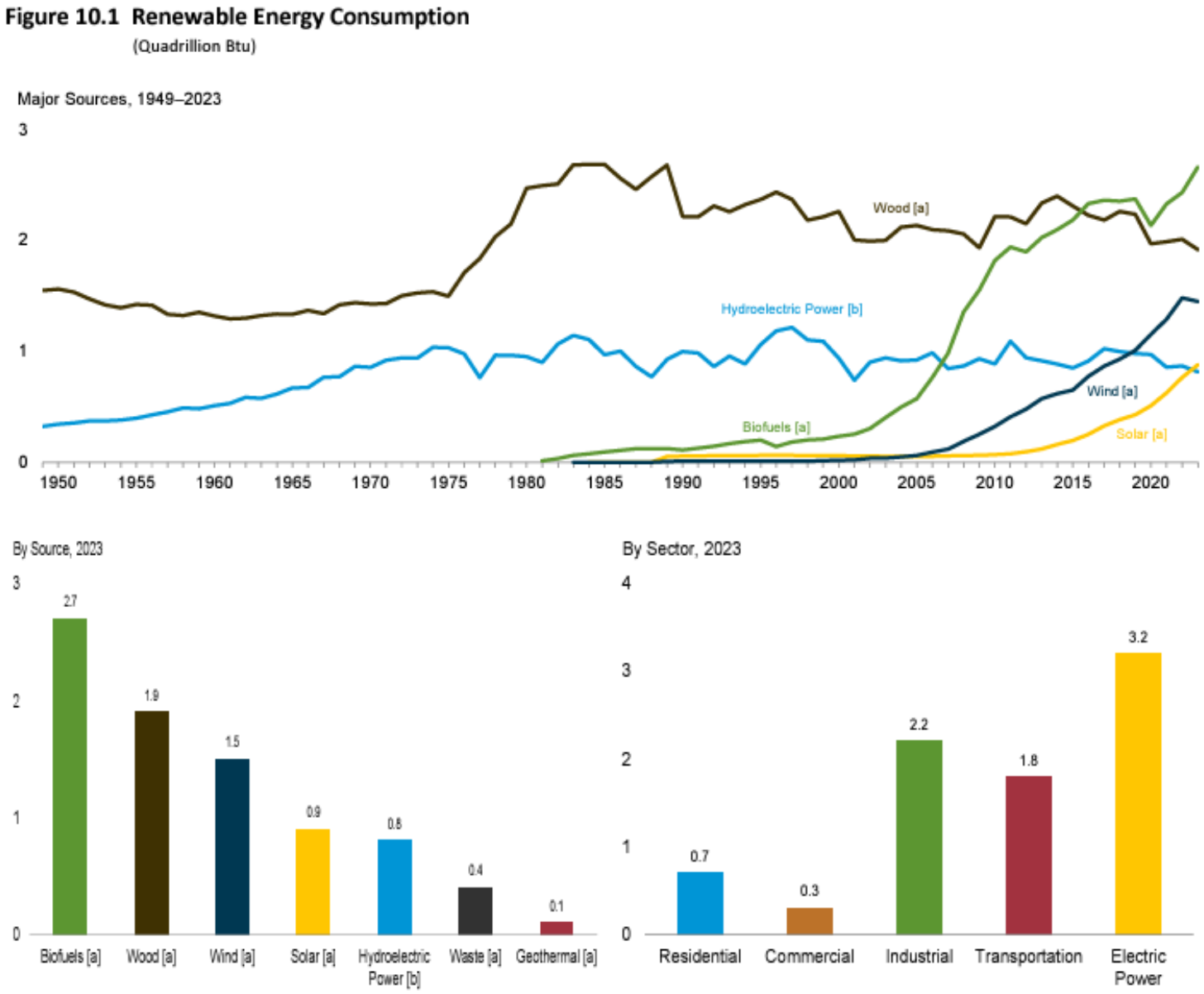
Electric power and industrial sectors are the largest consumers of natural gas. Both have been growing steadily in recent years (Figure 10).

Figure 10: Natural Gas Consumption and Production (Source: EIA)



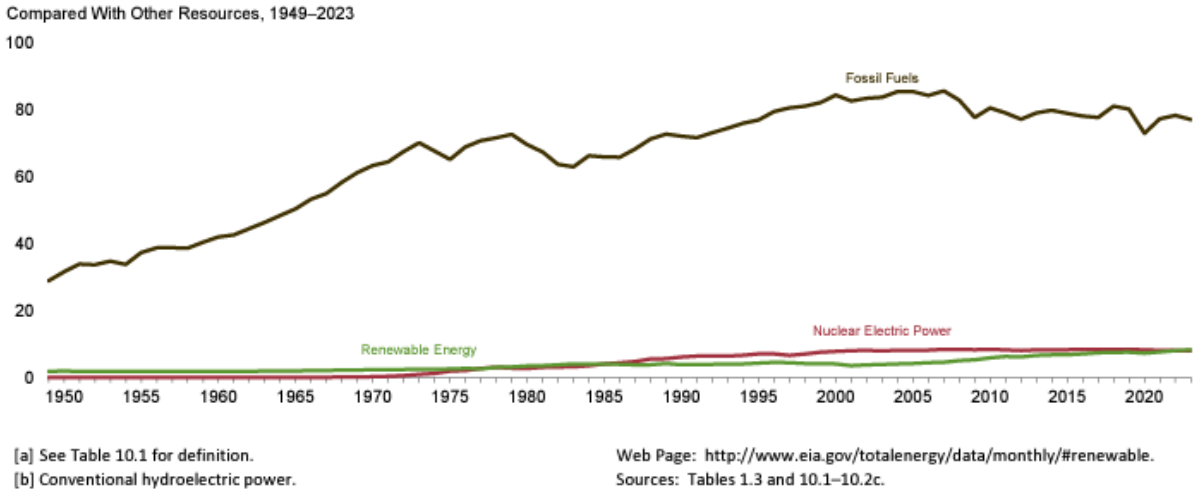
Supply of renewable energy in the US is dominated by biofuels and wood, both relatively inefficient fuels. Last year saw the first year-on-year decline in wind consumption (Figure 11).

Figure 11: Renewable Energy Consumption (Source: EIA)



Fossil fuels provide about 80% of total energy supply in the US, nuclear and renewables each provide about 10% (Figure 12). In total in 2023 wind was the source of about 1.8% of US energy consumption and solar about 1.1%.

Figure 12: US Energy Consumption by Resource (Source: EIA)



[a] See Table 10.1 for definition.
[b] Conventional hydroelectric power.

Web Page: http://www.eia.gov/totalenergy/data/monthly/#renewable.
Sources: Tables 1.3 and 10.1–10.2c.

The latest Baker Hughes rig count data follows. In April US total land rigs fell by 13 from 600 to 587. Total oil rigs fell by 9 from 508 to 499 while gas rigs fell from 110 to 102. Oil and gas rig totals include 18 offshore rigs working in April.

Baker Hughes

NORTH AMERICA Rotary Rig Count

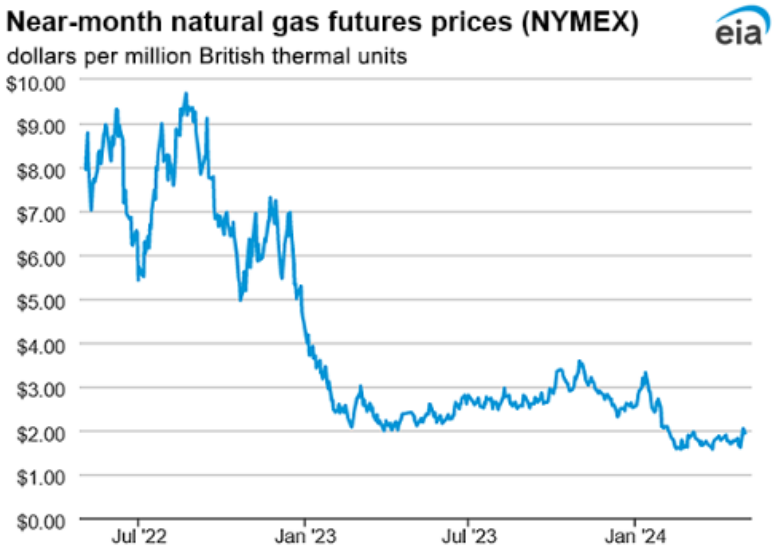
3/05/2024

Location	Week	+/-	Week	+/-	YearAgo
Inland Waters	0	0	0	-2	2
Land	587	-9	596	-138	725
Offshore	18	1	17	-3	21
United States Total	**605**	**-8**	**613**	**-143**	**748**
Gulf of Mexico	**17**	**2**	**15**	**-3**	**20**
Canada	**120**	**2**	**118**	**27**	**93**
North America	**725**	**-6**	**731**	**-116**	**841**
U.S. Breakout Information	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Gas	102	-3	105	-55	157
Oil	499	-7	506	-89	588
Miscellaneous	4	2	2	1	3
Directional	40	-7	47	-11	51
Horizontal	552	0	552	-124	676
Vertical	13	-1	14	-8	21

Gas Market

In April, prompt Henry Hub gas futures prices started to recover. This was primarily driven by falling production and the announcements by several large, listed gas producers of future cuts to activity and production in response to low prices (Figure 13).

Figure 13: Near Month Henry Hub Futures (Source: EIA)

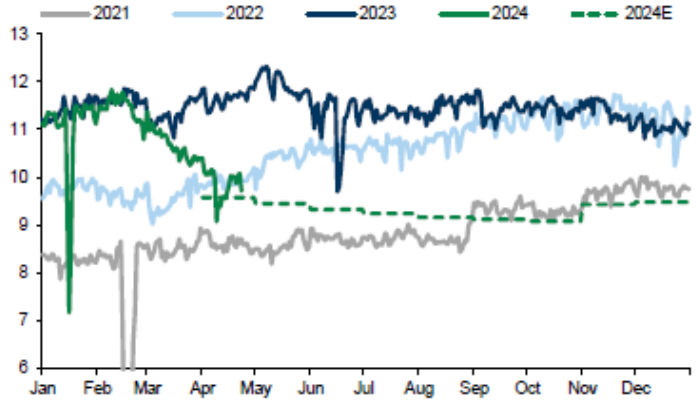


Data source: CME Group as compiled by Bloomberg, L.P.

Gas production in the Haynesville, a large dry gas producing region that should respond relatively quickly to changes in prompt gas prices, has fallen since March (LHS, Figure 14). The steep fall and then recovery seen in April was driven by pipeline maintenance. A drop in LNG demand driven by maintenance and repair driven outages, principally at the Freeport LNG facility (RHS, Figure 14), has partially offset the impact of falling production.

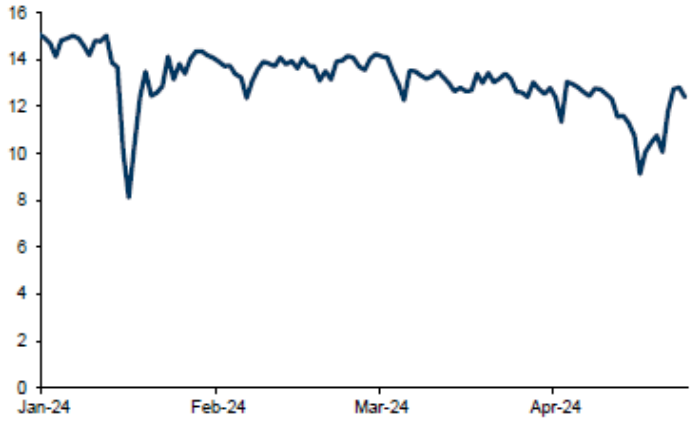
Figure 14: Haynesville Production and LNG Demand (Source: various, via GS)

Exhibit 2: Haynesville production has recovered sharply from earlier this month
Haynesville (North LA) gas production, Bcf/d



Source: Wood Mackenzie, Goldman Sachs Global Investment Research

Exhibit 3: LNG feedgas has been under pressure driven by outages
US LNG feedgas demand, Bcf/d



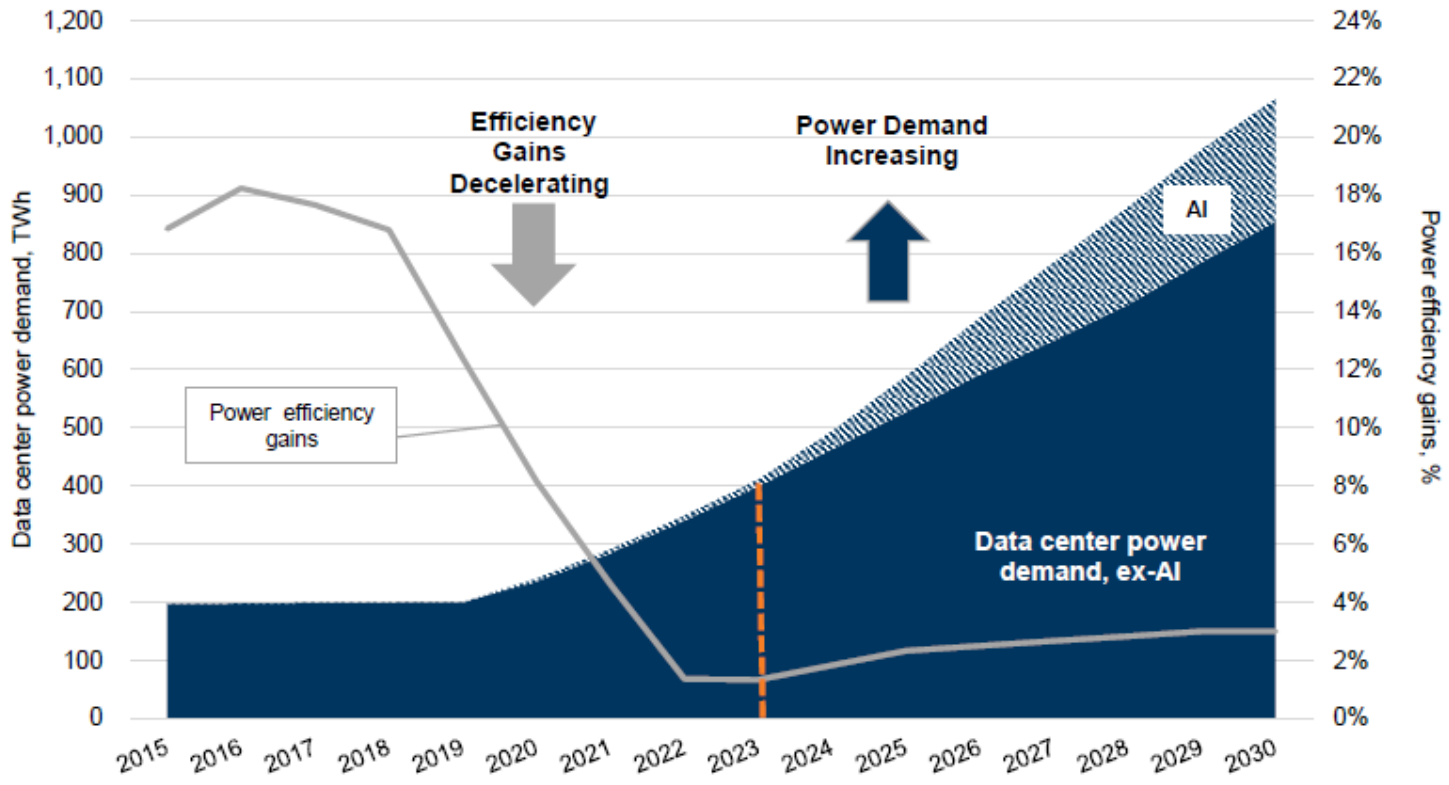
Source: Bloomberg, Goldman Sachs Global Investment Research

As was seen in Figure 5, since 2000 US electricity demand has fallen with efficiency gains offsetting underlying demand growth. Goldman believes that a surge in data centre demand for power, complimented by electrification and industrial reshoring and manufacturing activity, will deliver a surge in electric power demand over the next decade. Power demand from data centres is projected by Goldmans to more than triple by 2030 versus 2020 (Figure 15).

Figure 15: Data Centre Electricity Consumption (Source: GS)

Exhibit 1: After being flattish for 2015-19, we see power demand from data centers more than tripling in 2030 vs. 2020, with an upside case more than double the base case depending in part on product efficiencies and AI demand

Data center electricity consumption, TWh (LHS) and 3-year rolling average power efficiency gains yoy, % (RHS)



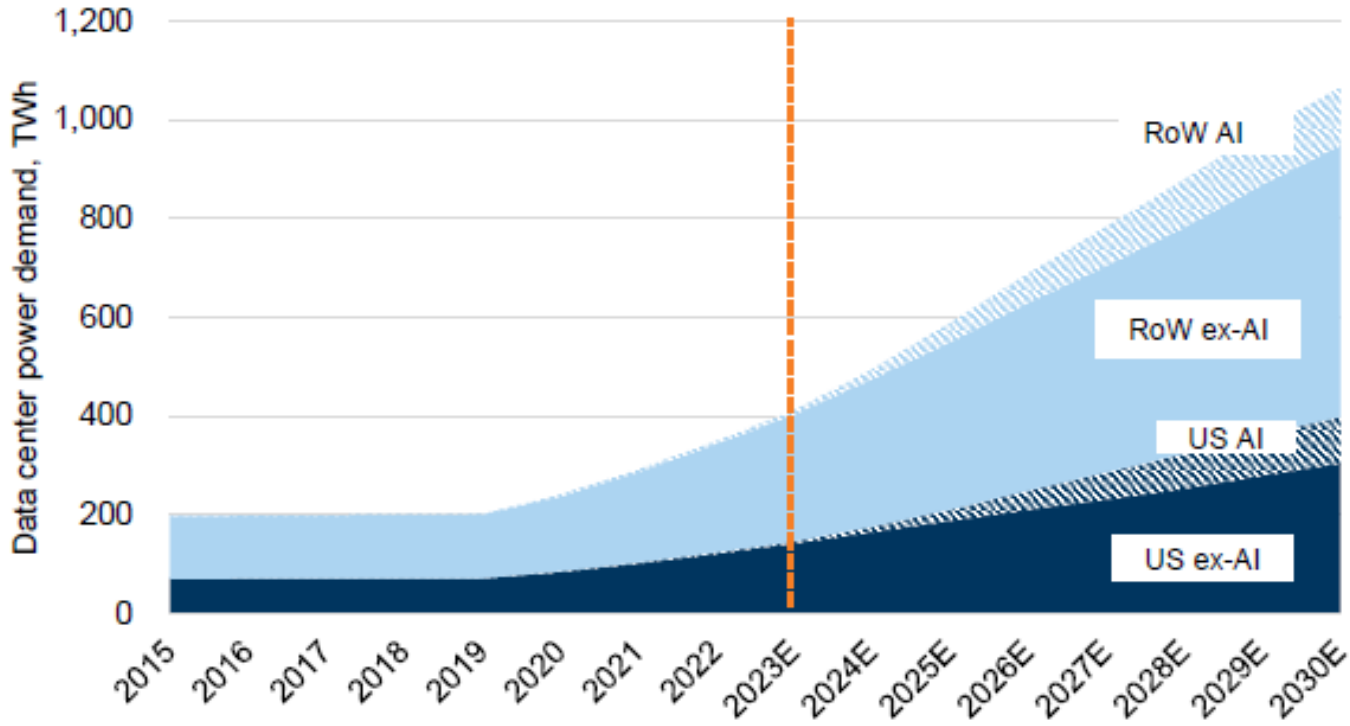
Source: Masanet et al. (2020), Cisco, IEA, Goldman Sachs Global Investment Research

Globally, after being flat from 2015 to 2019, 2021 to 2023 has seen data centre power demand accelerate. A 160% increase is expected through the rest of the decade (Figure 16).

Figure 16: Global Data Centre Electricity Consumption (Source: various, via GS)

Exhibit 7: After being flat for 2015-19, we have seen data center power demand accelerate in 2021-23 and expect a 160% increase through the rest of the decade

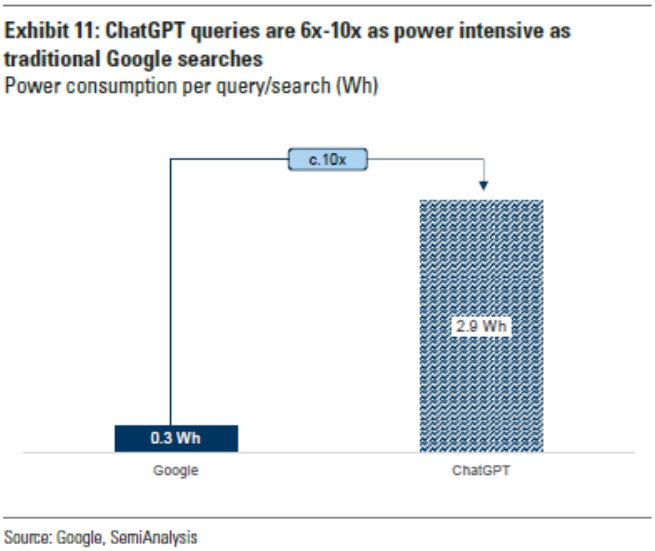
Global data center electricity consumption, TWh; includes AI and excludes cryptocurrency



Source: Masanet et al. (2020), Cisco, IEA, Goldman Sachs Global Investment Research

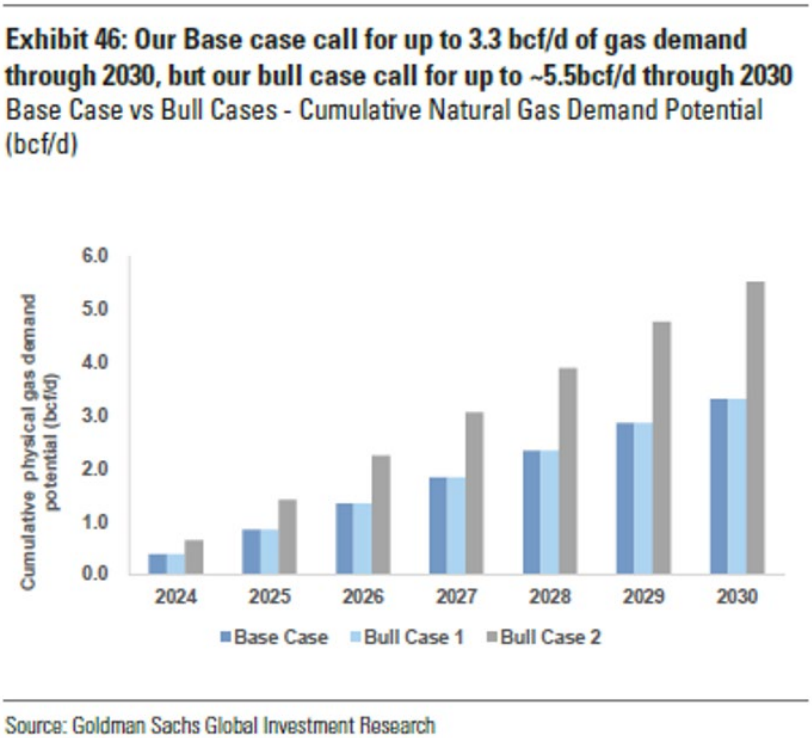
Artificial Intelligence (AI) activity consumes a large amount of power. To illustrate, ChatGPT web queries use 6 to 10 times more power than a traditional google search (Figure 17).

Figure 17: Power Consumption per Query/Search (Source: various via GS)



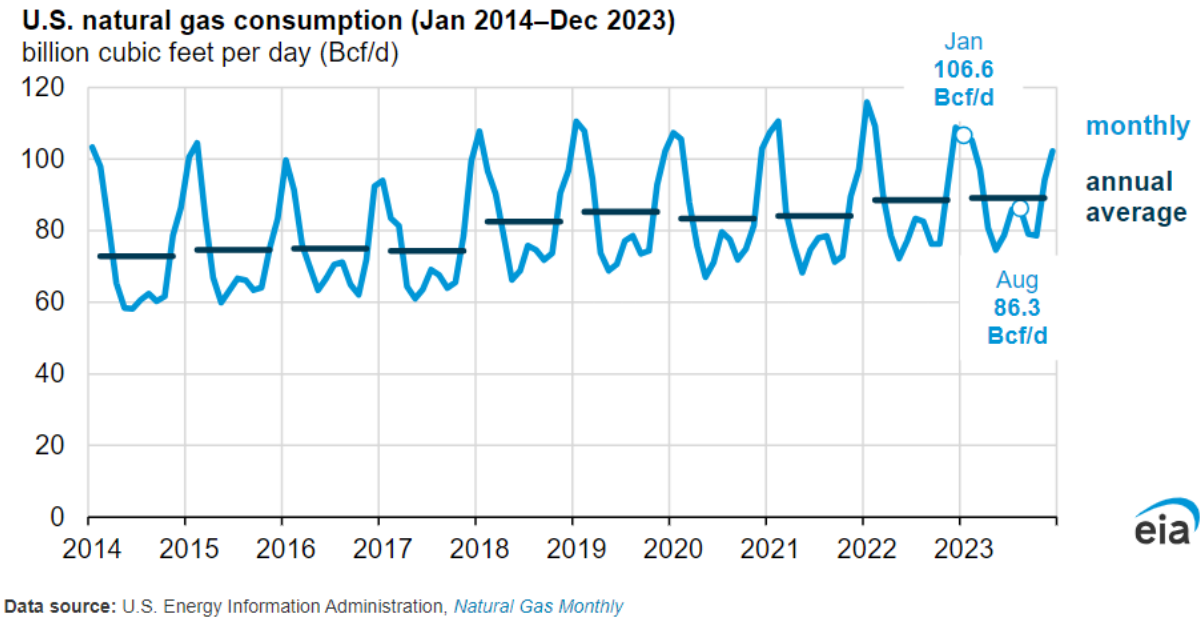
Goldman expects that US data centre power demand will call for up to 3.3 bcf/d of additional natural gas by the end of 2030 with a bull case requiring additional 5.5bcf/d (Figure 18). Overall, Goldman expects natural gas for power demand in the US to grow by ~3% annually from current ~35bcfd until 2030. For context LNG exports are currently ~12bcfd and are set to double to ~25bcfd by the end of the decade based on currently approved projects.

Figure 18: Additional Data Centre Electric Power Demand for Gas (Source: GS)



In 2023, 89.1 bcfd of natural gas was consumed in the US, the most on record (Figure 19). Since 2018, US natural gas consumption has increased by an average of 4% annually. Note these figures exclude gas exported by LNG and pipeline.

Figure 19: US Natural Gas Consumption (Source: EIA)

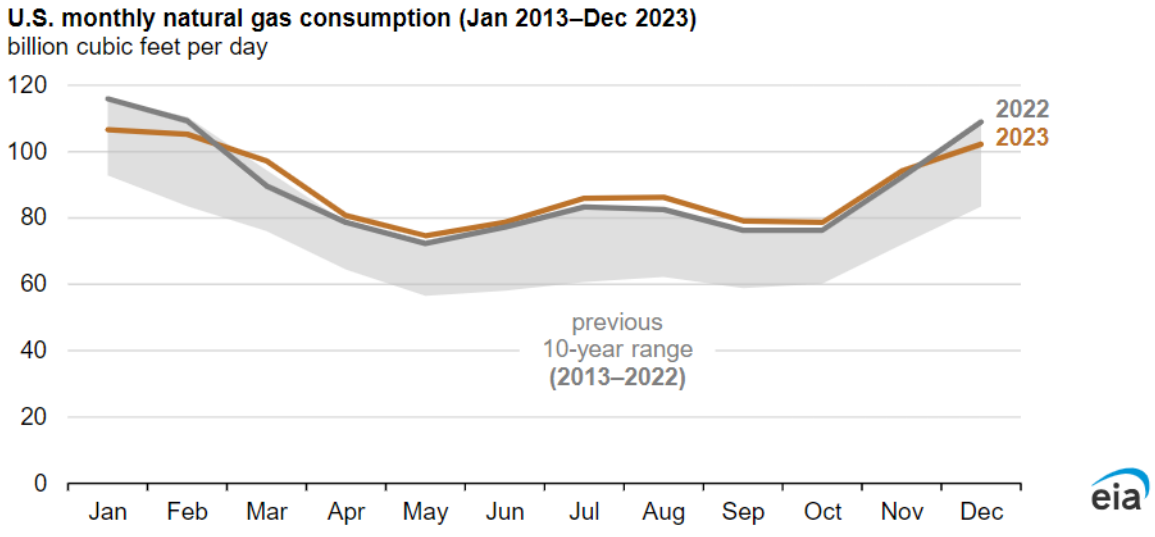


Data source: U.S. Energy Information Administration, *Natural Gas Monthly*

Last year, the largest monthly increases in natural gas consumed by the electric power sector were in July and August. Natural gas consumption in the electric power sector, which typically increases in July and August to meet air-conditioning demand, increased by 6% in July and August 2023 compared to those months in 2022, setting monthly records of 47.5bcfd in July and 47.2bcfd in August.

The 2021/2022 and 2022/2023 winters were both relatively warm, reducing natural gas demand for heating. The balance of 2023 (March to November) saw demand at or above 10-year highs (Figure 20).

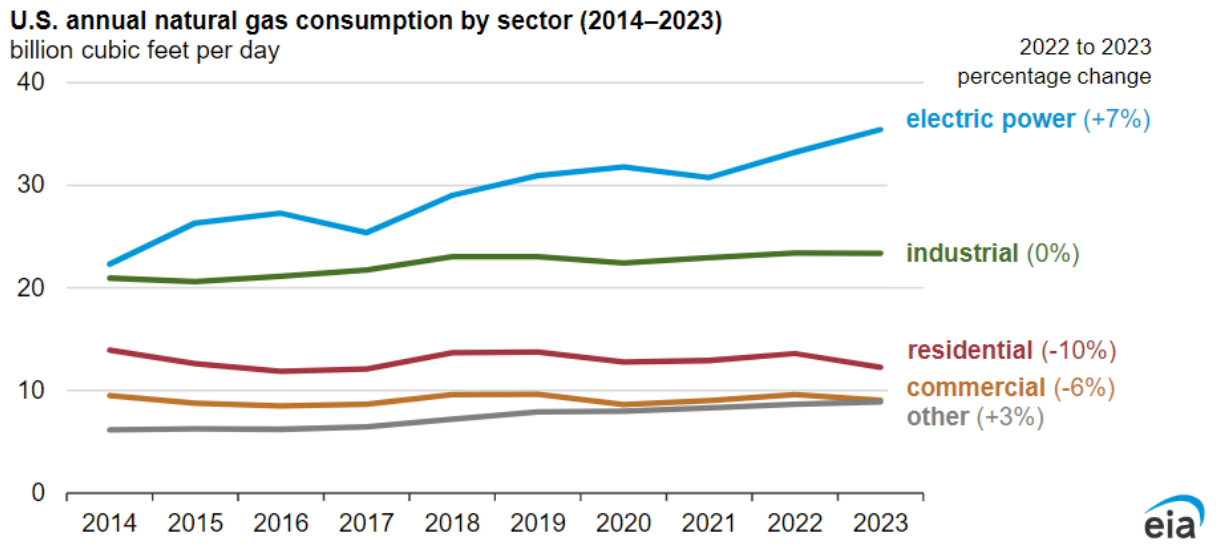
Figure 20: US Monthly Natural Gas Consumption 2023 (Source: EIA)



Data source: U.S. Energy Information Administration, *Natural Gas Monthly*

Gas consumed to produce electric power grew by 7% (2.2bcfd) from 33.2bcfd in 2022 to a record 35.4 bcfd in 2023. Industrial demand was flat while residential and commercial demand fell year-on-year because of the warm winters (Figure 21)

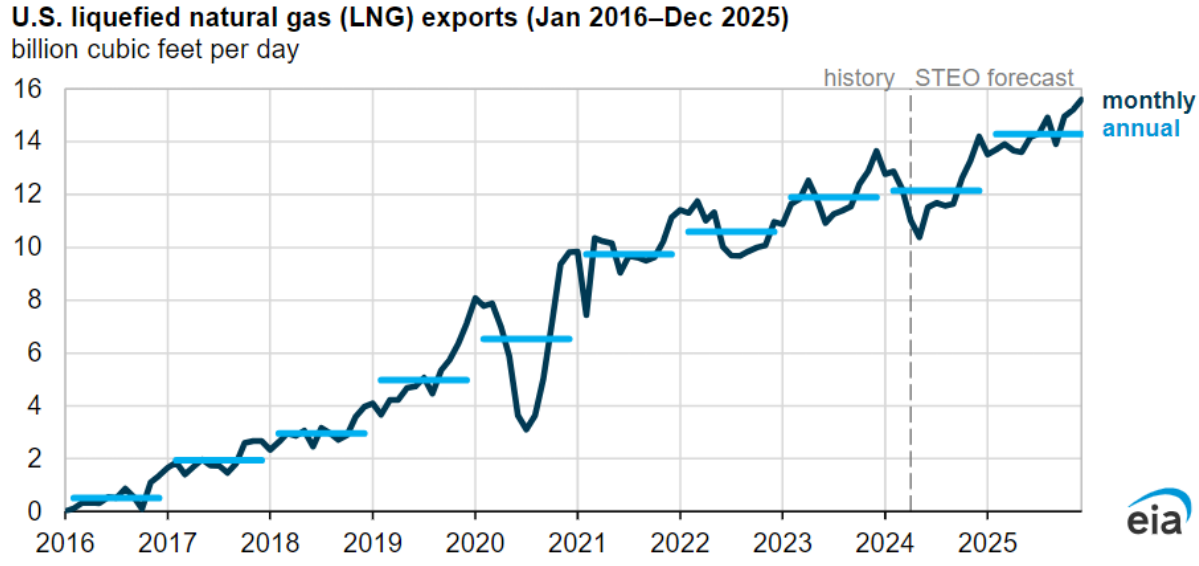
Figure 21: US Natural Gas Consumption by Sector 2014-2023 (Source: EIA)



Data source: U.S. Energy Information Administration, *Natural Gas Monthly*
Note: *Other* includes natural gas that was consumed as transportation fuel.

The EIA forecasts that three LNG projects currently under construction will have ramped up to full production by the end of 2025. The EIA's forecast is that net exports of US natural gas grow 6% to 13.6 bcfd in 2024 and then another 20% to 16.4bcfd in 2025 (Figure 22).

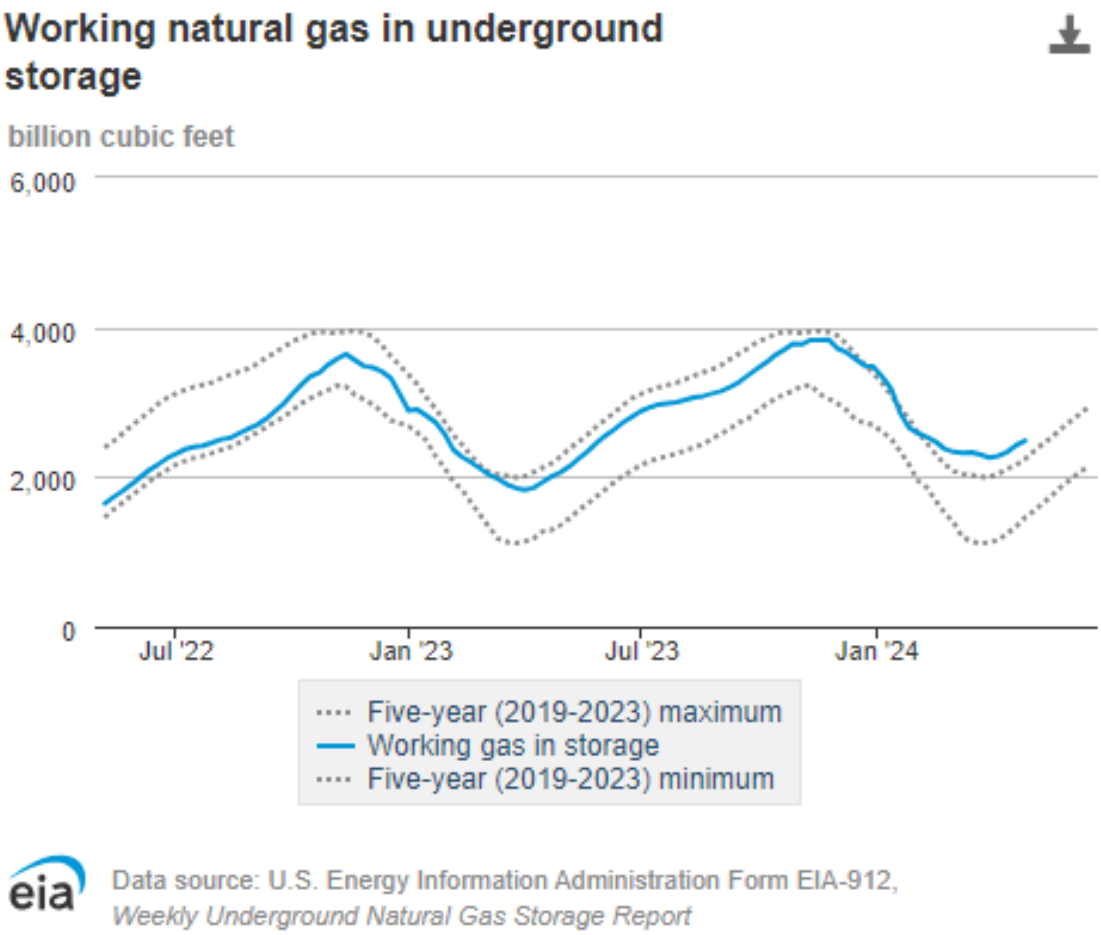
Figure 22: US LNG Exports (Source: EIA)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook* (STEO)

The winter withdrawal season is now over. Net injections into storage totalled 59 bcf for the week ending 26 April, compared to the five-year (2019-2023) average net injections of 72 bcf and last year's net injections of 62 bcf during the same week. Working natural gas stocks on 26 April totalled 2,484 bcf, which is 642 bcf (35%) more than the five-year average and 436 bcf (21%) more than this time last year (Figure 23).

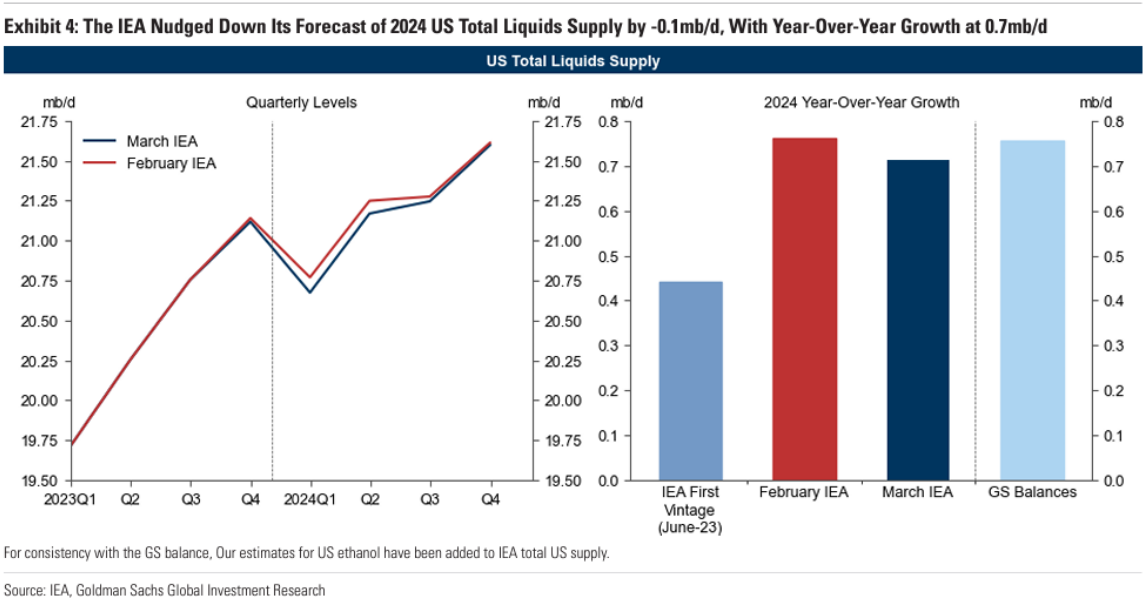
Figure 23: US Lower 48 Weekly Working Gas in Underground Storage (Source: EIA)



Oil Market

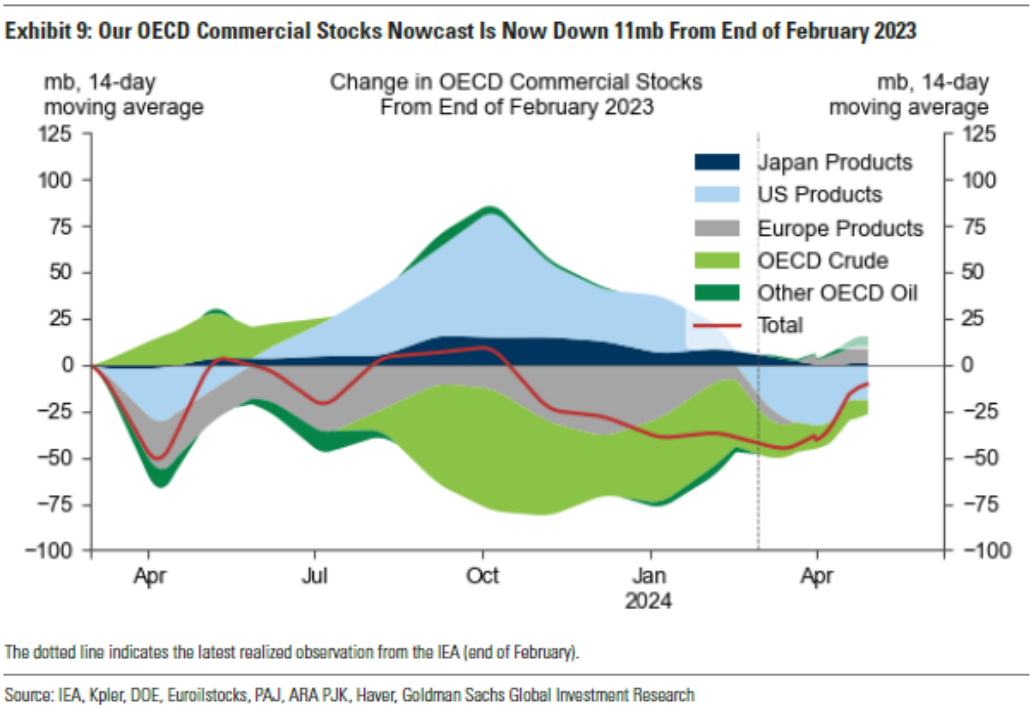
Oil prices remain relatively high however US oil production has stabilised (LHS Figure 24) and the oil rig count is well down from highs in mid-2023 (RHS Figure 24).

Figure 24: US Lower 48 Oil Production and Oil Rig Count (Source: various via GS)



Goldman estimates that OECD commercial oil stocks are down 11mmbbl from February 2023 to April 2024 (Figure 25). This is an 88mmbbl increase in the last month.

Figure 25: Change in OECD Commercial Oil Stocks from end Feb 2023 (Source: various, via GS)



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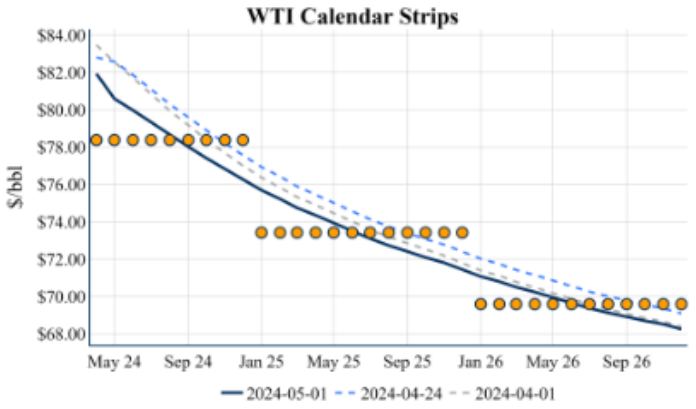
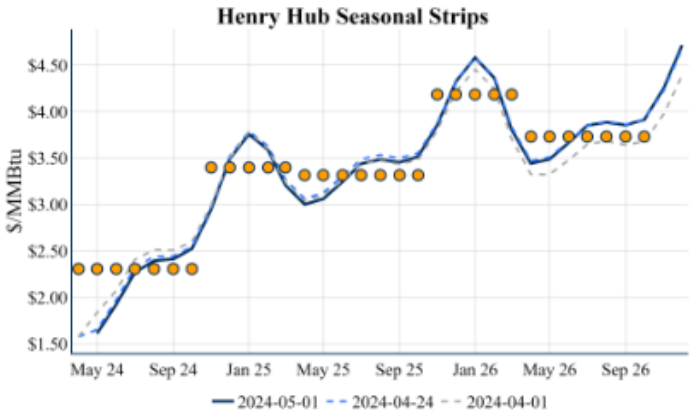
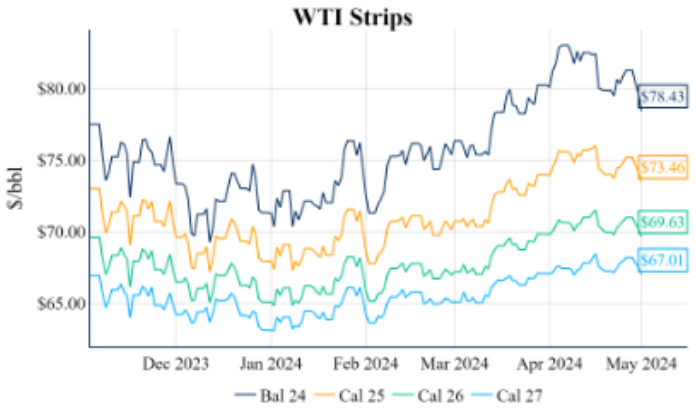
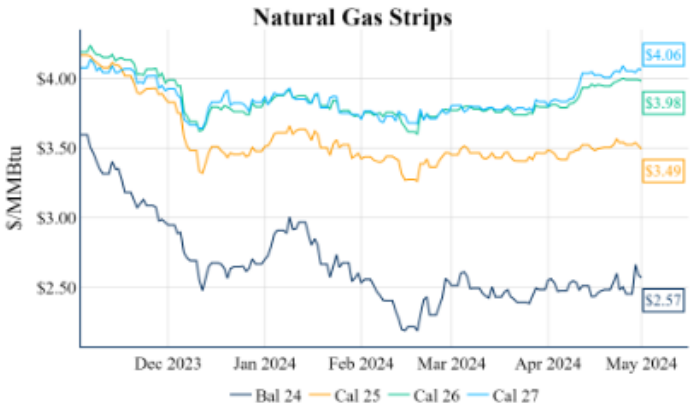
Gas and Oil Prices 1 May 2024









Swap Pricing	Bal 24	Cal 25	Cal 26
NYMEX WTI	$78.36	$73.41	$69.59
ICE Brent	$82.98	$78.26	$74.59
LLS	$81.11	$76.08	$72.39
Mars	$78.78	$73.32	$67.84
West TX Sour (WTS)	$78.47	$73.40	$69.09
Dubai	$82.33	$77.22	$73.62
Dated Brent	$85.27	$78.50	$74.68
WCS-WTI	-$13.53	-$13.60	NaN

Swap Pricing	Month 1	Summer 24	Winter 24/25	Summer 25	Winter 25/26
Henry Hub Fixed	$1.932	$2.312	$3.403	$3.322	$4.182
Eastern Gas South	-$0.503	-$0.822	-$0.789	-$0.994	-$0.931
Waha	-$1.444	-$0.948	-$0.414	-$1.047	-$0.675
TETCO M3	-$0.434	-$0.674	$0.594	-$0.822	$0.721
Houston Ship Channel	-$0.218	-$0.316	-$0.275	-$0.408	-$0.195
Columbia Gulf Mainline	-$0.184	-$0.251	-$0.239	-$0.261	-$0.267
Panhandle East	-$0.447	-$0.506	$0.090	-$0.498	$0.061
NGPL MidCon	-$0.448	-$0.531	-$0.188	-$0.645	-$0.195
SoCal	-$0.399	$0.102	$2.179	$0.604	$2.082
AECO	-$1.110	-$1.322	-$1.100	-$1.104	-$1.154
Chicago City-Gates	-$0.268	-$0.344	$0.315	-$0.307	$0.320

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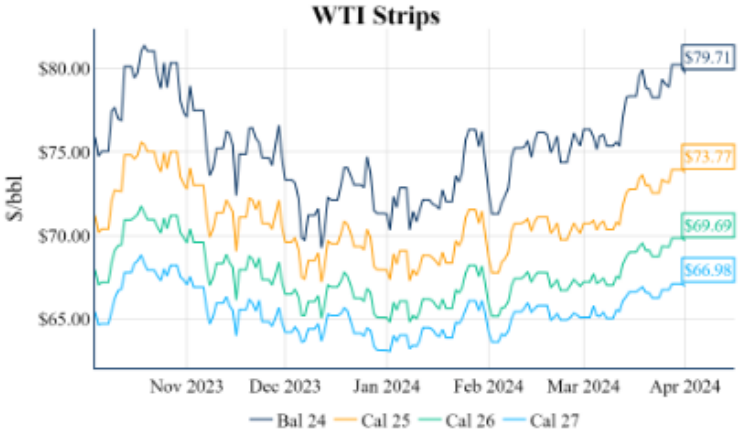
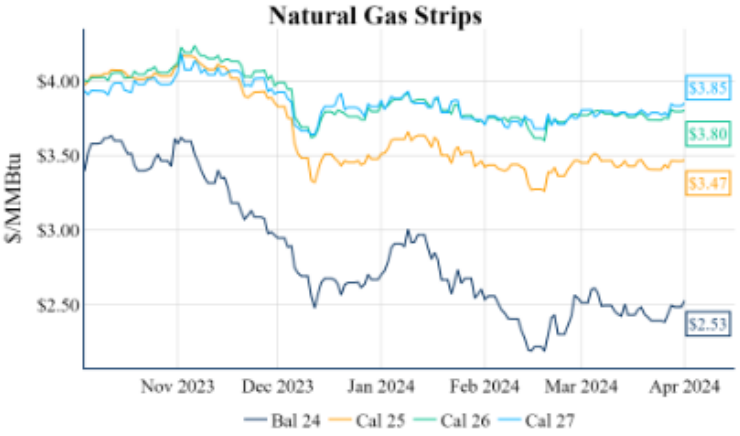
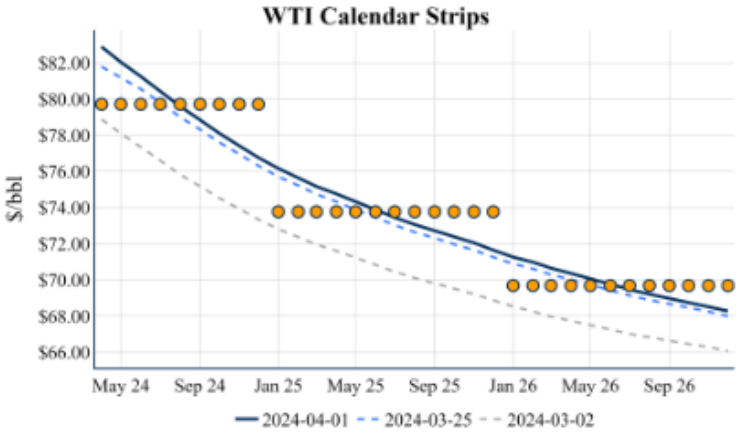
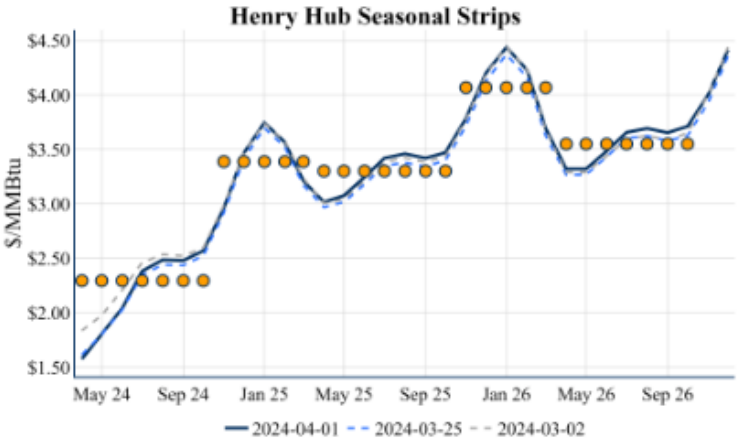
Gas and Oil Prices 1 April 2024









Swap Pricing	Bal 24	Cal 25	Cal 26
NYMEX WTI	$79.72	$73.78	$69.69
ICE Brent	$83.76	$78.36	$74.68
LLS	$82.38	$76.51	$72.50
Mars	$80.22	$73.42	$67.95
West TX Sour (WTS)	$79.98	$73.78	$69.20
Dubai	$83.32	$77.61	$73.95
Dated Brent	$85.08	$78.54	$74.64
WCS-WTI	-$12.89	-$13.32	NaN

Swap Pricing	Month 1	Summer 24	Winter 24/25	Summer 25	Winter 25/26
Henry Hub Fixed	$1.816	$2.303	$3.397	$3.309	$4.068
Eastern Gas South	-$0.403	-$0.703	-$0.801	-$0.985	-$0.924
Waha	-$1.485	-$0.920	-$0.247	-$0.573	-$0.273
TETCO M3	-$0.333	-$0.559	$0.648	-$0.811	$0.673
Houston Ship Channel	-$0.204	-$0.259	-$0.164	-$0.317	-$0.176
Columbia Gulf Mainline	-$0.151	-$0.209	-$0.228	-$0.225	-$0.227
Panhandle East	-$0.309	-$0.373	$0.159	-$0.427	$0.113
NGPL MidCon	-$0.273	-$0.358	$0.031	-$0.404	$0.004
SoCal	-$0.210	$0.084	$2.095	$0.362	$1.727
AECO	-$0.512	-$0.914	-$1.030	-$1.029	-$0.995
Chicago City-Gates	-$0.155	-$0.262	$0.271	-$0.331	$0.273

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