



**July 29, 2024**



# **The TXOGA Chartbook serves as an essential resource for our members and those keen on comprehending the data that narrate ongoing developments within the economy and the oil and gas sectors, both internationally and domestically, including specific trends in Texas.**

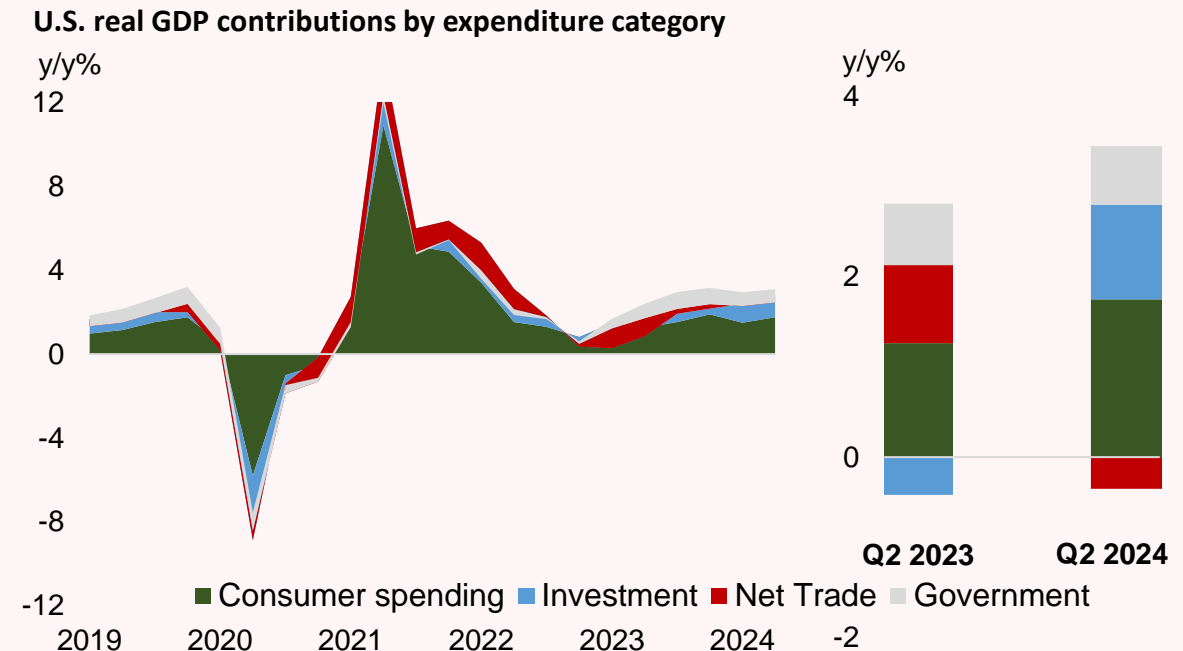
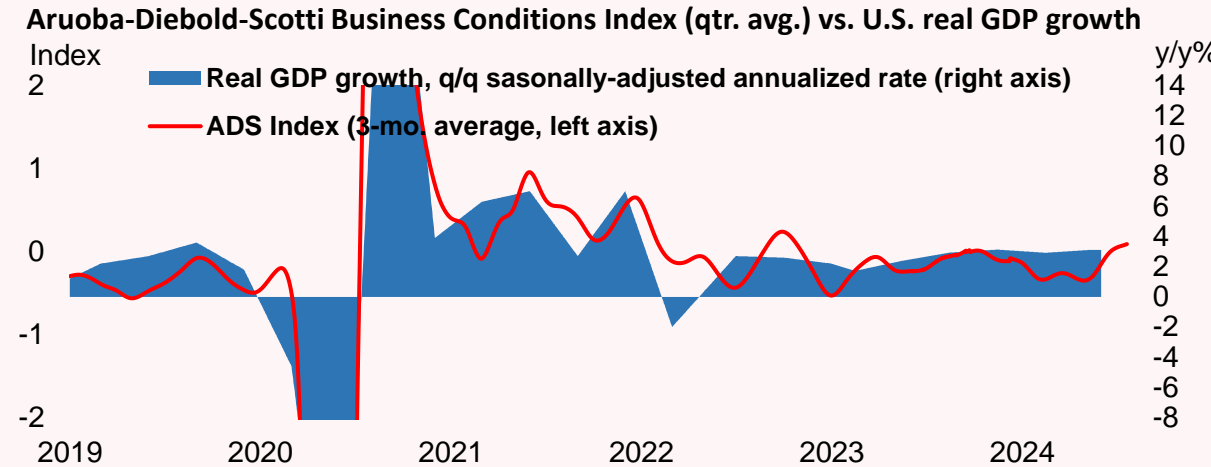
## **Key points for the week of July 29, 2024**

- **U.S. economic indicators were validated by solid GDP growth in Q2 2024.** As highlighted in the [Chart of the Week](#), U.S. real GDP rose by 3.1% year-over-year (y/y) in Q2 2024, marked by record highs for imports and government spending. This growth was consistent with our expectations based on monitoring the Aruoba-Diebold-Scotti (ADS) Business Conditions Index from the Federal Reserve Bank of Philadelphia, which further accelerated in early July, suggesting improvement at the beginning of Q3 2024.
- **Oil market fundamentals continued to tighten.** Although oil prices slipped for the week ended July 26 due to prospective economic concerns, the latest weekly U.S. data showed strong increases in domestic demand and net exports outpacing record-high production. This resulted in crude oil inventories falling by 3.7 million barrels week-over-week (w/w), marking the fourth straight weekly decline and reaching the bottom of the 5-year range.
- **Seasonal inventory building for natural gas continued to slow,** with storage sitting 2% above its 5-year range after having been more than 25% above the range just a month and a half ago. U.S. natural gas exports of 13.8 bcf/d edged down from a record-high 14.3 bcf/d in June, according to the EIA, while domestic consumption was projected to be the second highest for the month of July in data on record since 2001. Together, these points suggest that the pace of production has equilibrated relative to exports and domestic consumption, but prices as of July 26 remained historically low at just above \$2.00 per million Btu (mmBtu). By comparison, futures prices for December delivery stood at \$3.20 per mmBtu as of July 26.

# TXOGA Chart of the Week: U.S. GDP for Q2 2024 marked by record highs for imports and government spending

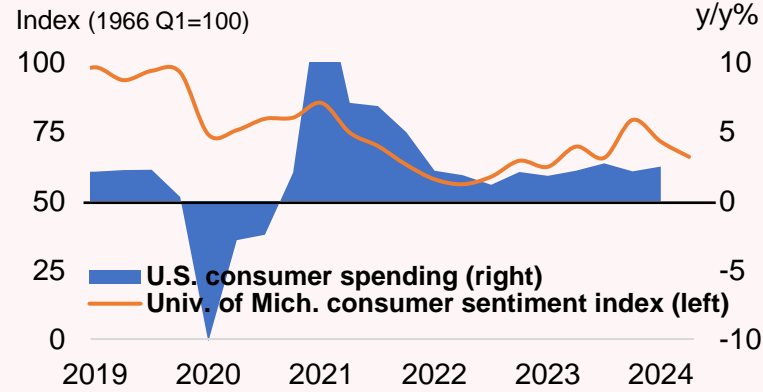


- ▶ The U.S. real GDP initial report for Q2 2024 showed growth of 3.1% y/y, compared with 2.9% y/y in Q1 2024 and 2.4% y/y for the same quarter a year ago, per the Bureau of Economic Analysis. Let's delve into some details.
- ▶ Consumer spending growth drove about half of growth in Q2 2024 despite consumer sentiment having fallen during the quarter, per the University of Michigan's survey. Economywide investment accounted for another 30% of growth in Q2 2024, thanks to a pick-up in industrial production.
- ▶ Government expenditures contributed nearly 20% of U.S. real GDP growth, reaching a record-high pace of \$3.934 trillion, the highest of any quarter on record since 1965. This has been funded by a Federal deficit projected at \$1.9 trillion for fiscal year 2024, per the Congressional Budget Office.
- ▶ Notably, the U.S. trade deficit eclipsed an annualized rate of \$1.0 trillion for the first time since Q2 2022 and detracted 0.4% y/y from real GDP growth in Q2. This was a reversal from a year ago, when a narrowed trade deficit contributed positively to growth, and investment detracted from it.
- ▶ With a historically strong U.S. dollar foreign exchange rate, which makes imports relatively less expensive, real imports of goods and services in Q2 2024 rose to an annualized pace of \$3.6 trillion, the highest on record in data since 1965.



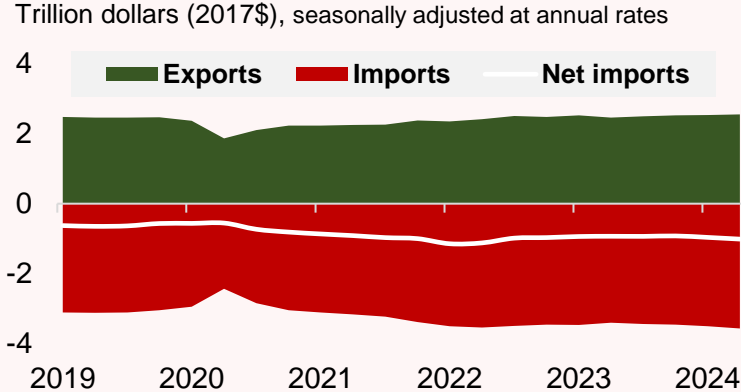
# U.S. economic indicators

## Consumer sentiment vs. spending



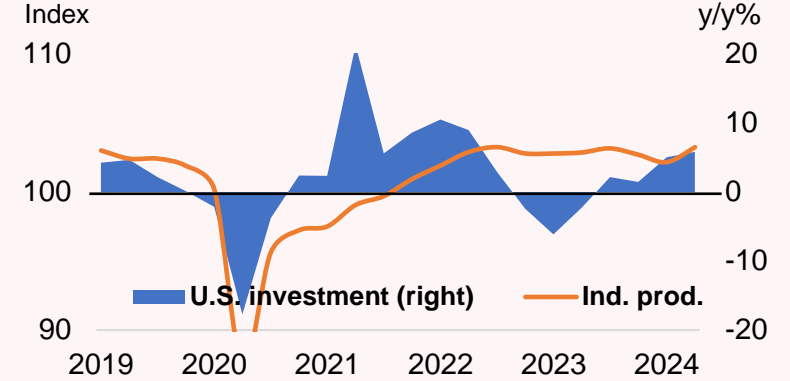
**Consumer spending remained solid in Q2 2024**, rising by 2.5% y/y versus 2.1% y/y in Q1 2023. Positive but slower consumer spending growth was expected given the historical relationship with the University of Michigan's survey of consumer sentiment, which dropped by 16.9% since March 2024.

## Real net exports of goods and services



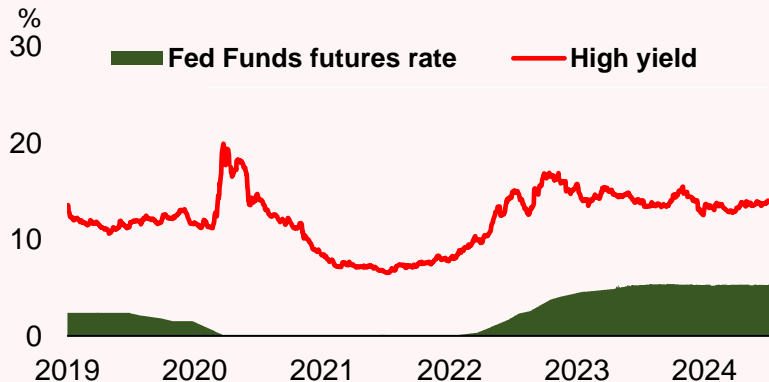
**U.S. trade deficit widened in Q2 2024.** The U.S. real trade deficit ran at an annualized rate of \$1.0 trillion in Q2 2024 per BEA, up from \$960B in Q1 2024. On a nominal basis, the trade surplus for petroleum and products fell to an annualized rate of \$27 billion in Q2 2024 (vs. \$52 billion in Q1).

## Industrial production and investment growth



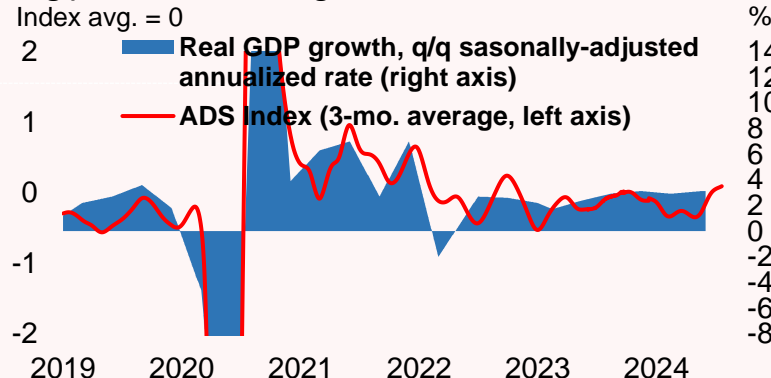
**U.S. economywide investment grew by 5.8% y/y in Q2 2024**, per the Bureau of Economic Analysis. The correlation with industrial production, which rose by 1.6% y/y in June per the Federal Reserve Board, remains consistent with further investment growth.

## Fed Funds rate and CCC and lower corporate bond yields



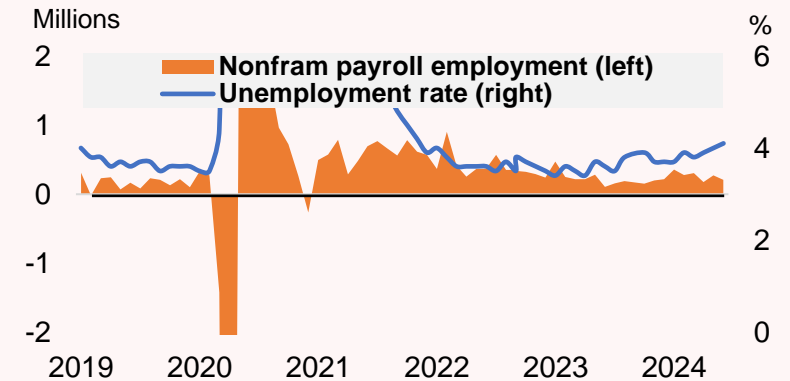
**Bond premium for low credit quality held steady.** High yield (HY) rates reflect debt costs for firms with below-investment grade credit quality. For the week ended July 26, HY rates were unchanged w/w at 13.5%, while Fed Funds futures rates remained at 5.3%, resulting in a steady premium for low credit quality of 8.2%.

## Aruoba-Diebold-Scotti Business Conditions Index (qtr. avg.) vs. U.S. real GDP growth



**The ADS index has strengthened in July, suggesting solid GDP growth.** The ADS business conditions index, published by the Philadelphia Fed. Res. Bank, is a leading indicator of GDP growth. A rolling 3-month average of the ADS index has accurately reflected real GDP growth and with recent increases remains consistent with further growth in Q3.

## Nonfarm payroll employment & unemployment rate



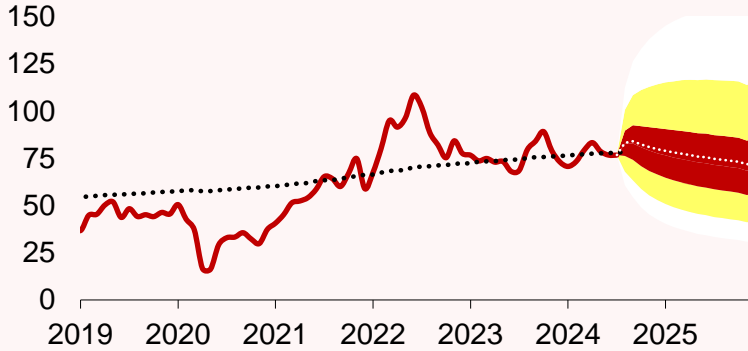
**Solid labor market growth continued in June.** The employment situation is a lagging indicator of GDP growth. The U.S. unemployment rate rose by 0.1% m/m to 4.1 in June per BLS, while non-farm payrolls increased by 206,000.



# U.S. oil market indicators

## WTI crude oil price mean reversion analysis

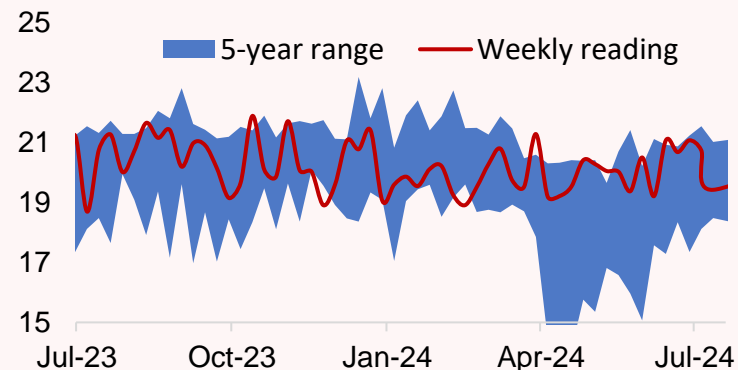
Dollars per barrel (2024\$)



**Near-term futures prices have risen above the historical mean reversion target.** The futures strip remains backwardated (that is, futures prices currently are lower than spot prices). Confidence intervals based on past prices show the potential for greater upside than downside.

## U.S. petroleum demand

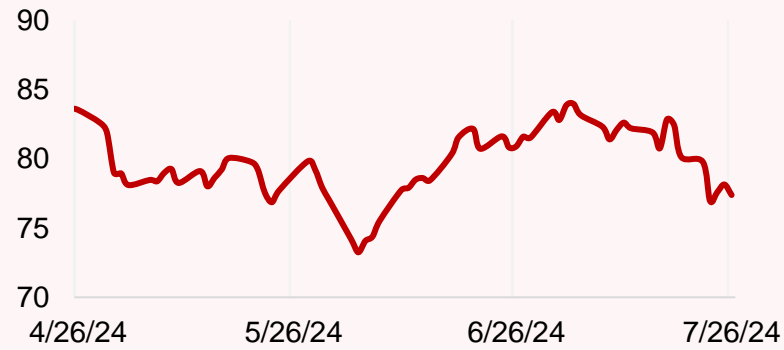
Million barrels per day (mb/d)



**Petroleum demand increased.** U.S. petroleum demand, as measured by deliveries, rose by 1.6 mb/d w/w to 21.0 mb/d for the week ended July 19.

## WTI crude prompt month futures prices

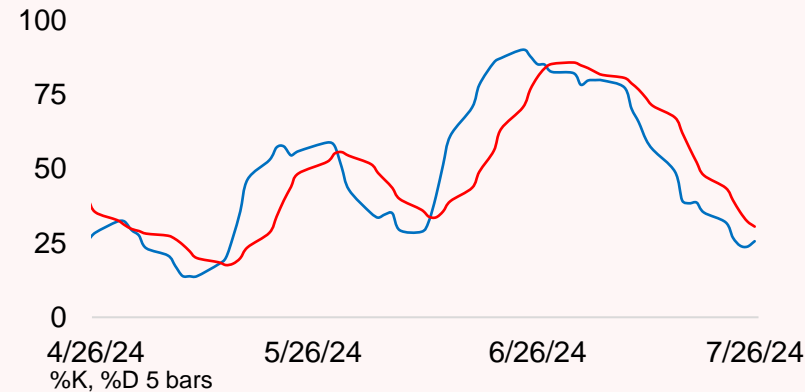
Dollars per barrel



WTI crude oil prices fell by 3.4% w/w to \$77.39 per barrel for the week ended July 26, despite continued domestic crude inventory drawdowns and a continued Middle East geopolitical premium.

## WTI crude prompt month futures slow stochastic

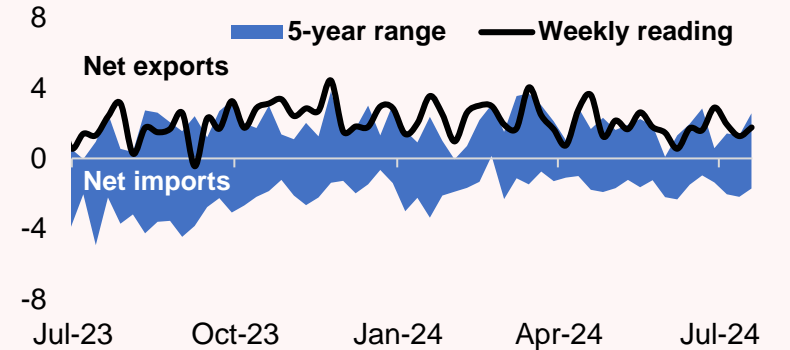
Index level



Price momentum weakened during the week ended July 26.

## U.S. petroleum net exports (imports)

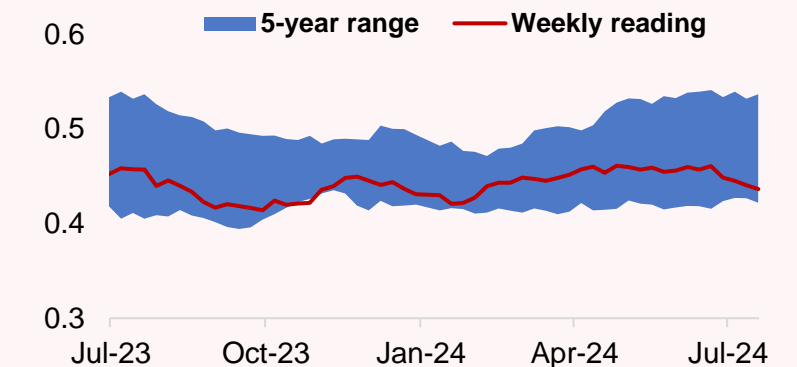
Million barrels per day, mb/d



**Petroleum net exports rose.** The U.S. was a petroleum net exporter of 1.8 mb/d for the week ended July 19, up by 0.5 mb/d from the prior week.

## U.S. ending stocks of crude oil (excluding the SPR)

Billion barrels

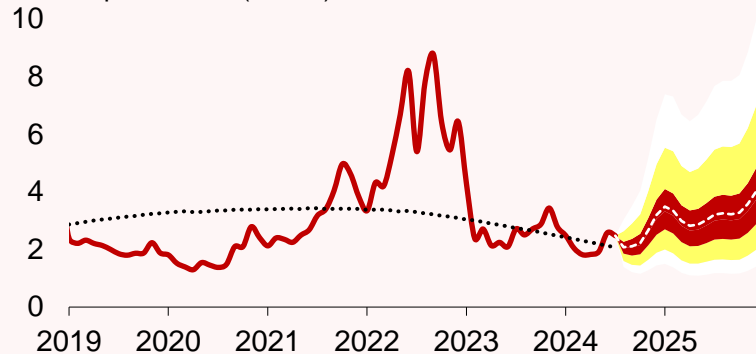


**Inventories decreased.** U.S. ending stocks of crude oil excluding the Strategic Petroleum Reserve (SPR) decreased by 3.7 million barrels (mb) for the week ended July 19 and have fallen by 24.2 mb (5.3%) over the past four weeks towards the bottom of the 5-year range.

# U.S. natural gas market indicators

## Natural gas price mean reversion analysis

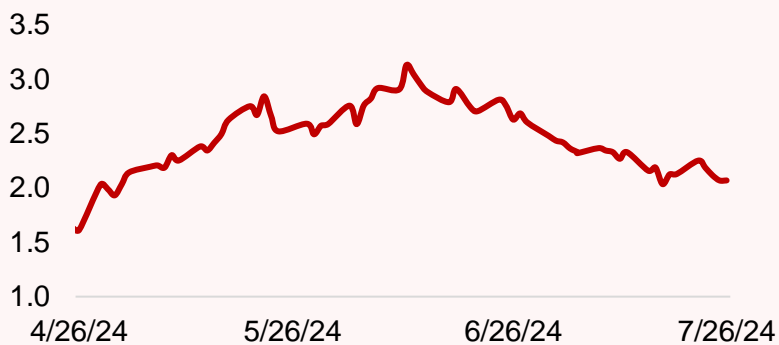
Dollars per mMBtu (2024\$)



Near-term natural gas futures prices have aligned the historical mean reversion target but rise by 54% between the August and December contracts. Confidence intervals based on past prices show the potential for greater upside than downside.

## Natural gas prompt month futures prices

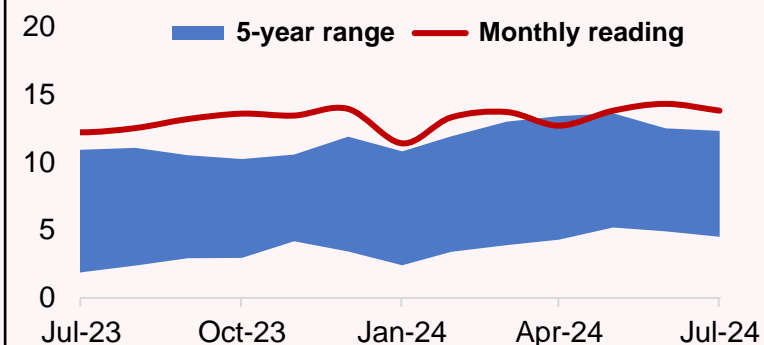
Dollars per million Btu



Natural gas prices at Henry Hub remained near \$2.00 per million Btu for the week ended July 26, due to historically strong inventory levels.

## U.S. natural gas net exports

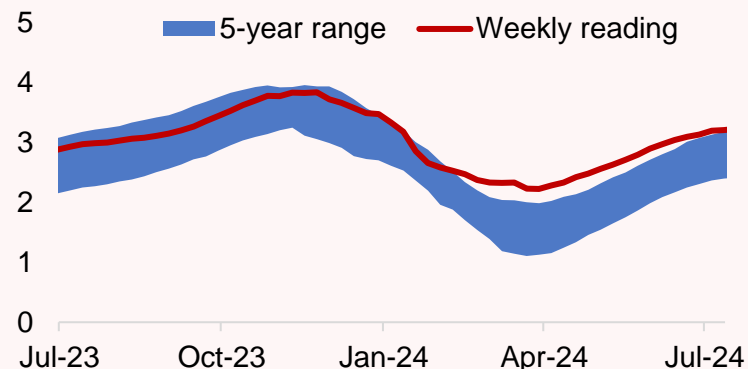
Billion cubic feet per day, bcf/d



Strong natural gas net exports of 13.8 bcf/d projected in July by EIA, easing from a record-high 14.3 bcf/d in June.

## U.S. weekly working gas storage

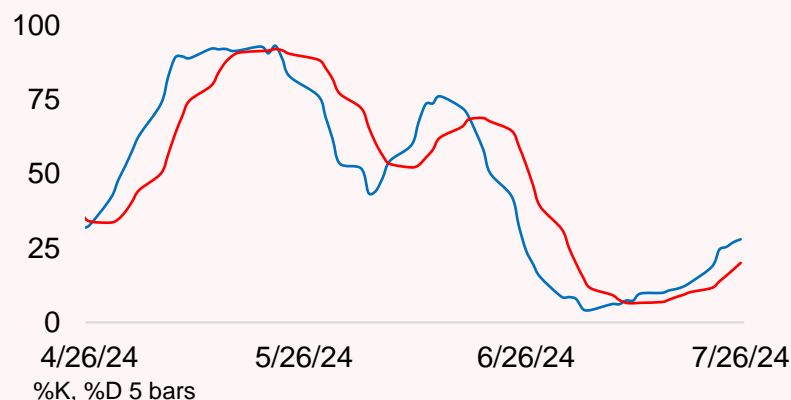
Trillion cubic feet (tcf)



Storage injections continued to slow. Working gas in underground storage rose by 0.7% w/w to 3.23 tcf as of July 12 but fell to 2% above the top of its 5-year range (vs. 4% above the 5-year range during the prior week).

## Natural gas futures slow stochastic

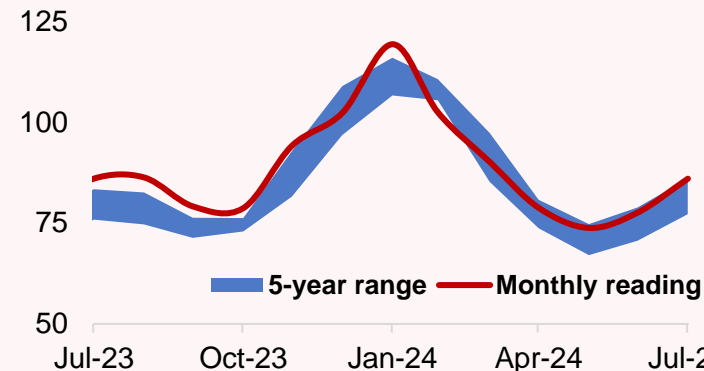
Index level



Natural gas price momentum flattened during the week ended July 26.

## U.S. natural gas consumption

Billion cubic feet per day, bcf/d

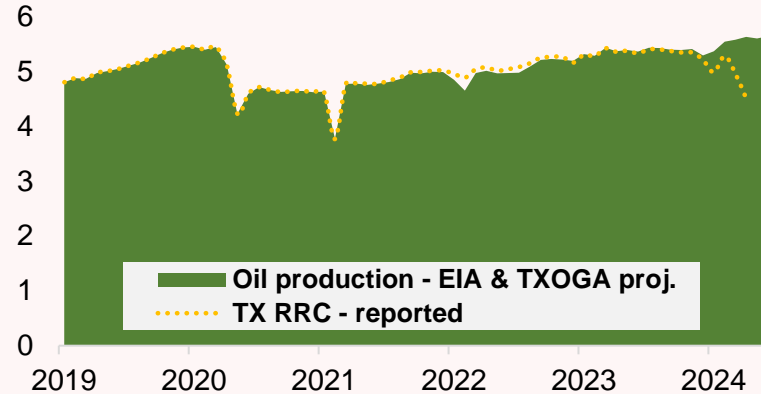


Consumption increased. U.S. natural gas consumption rose by 7.9 bcf/d m/m to 85.5 bcf/d in July per EIA, which represents a decrease of 0.6% y/y.

# Texas' oil and natural gas production

**Texas crude oil production, Jan. 2019 – June 2024**

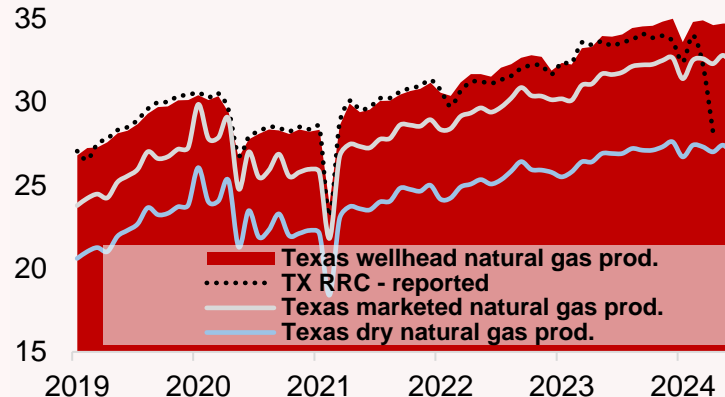
Million barrels per day (mb/d)



**Oil production held strong.** Texas' oil production edged up over 5.6 mb/d in April per EIA. TXOGA estimates that Texas crude oil production held at 5.6 mb/d June.

**Texas natural gas production, Jan. 2019 – June 2024**

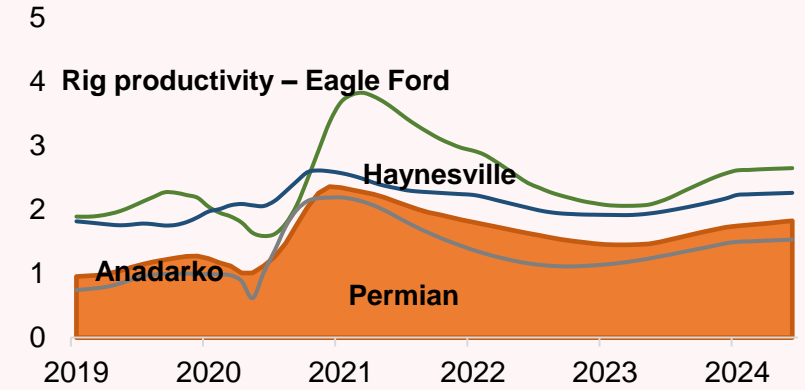
Billion cubic feet per day (bcf/d)



**Natural gas production remained strong.** Texas produced 34.6 bcf/d of natural gas gross withdrawals and 32.3 bcf/d of marketed production in April per EIA. TXOGA estimates that Texas' marketed production fell to 32.2 bcf/d in June with 27.0 bcf/d of dry gas production.

**Texas rig productivity by basin – new monthly prod. per rig**

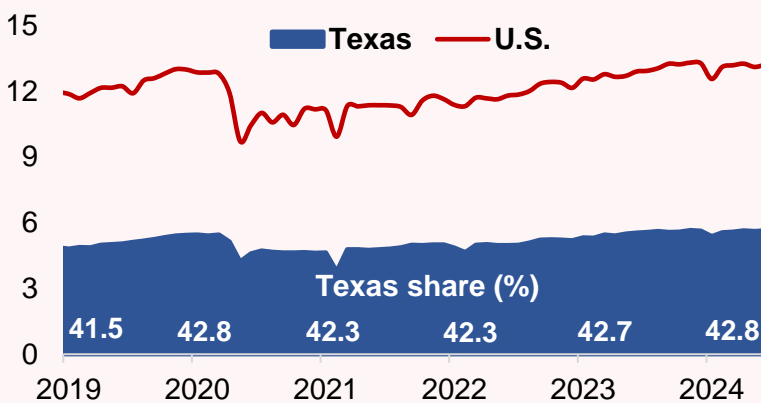
Thousand barrels per day oil-equivalent, kb/dae



**Strong productivity to start the year.** EIA estimates of rig productivity for June 2024 show continued increases year-over-year across the major Texas basins, including the Anadarko (+20.7% y/y), Eagle Ford (+24.5% y/y), Permian (+21.9% y/y), and Haynesville (+15.3% y/y).

**U.S. and Texas crude oil production, Jan. 2019 – June 2024**

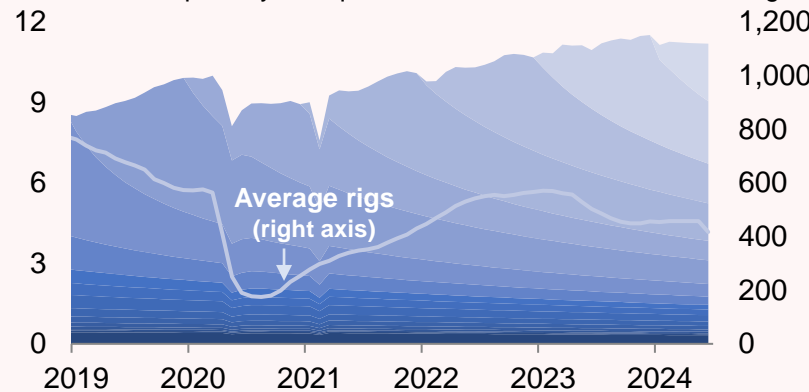
Million barrels per day (mb/d)



**Texas' share increased.** Texas accounted for an estimated 42.8% of U.S. crude oil production in June by TXOGA's estimates.

**Texas shale basin wellhead oil & natural gas production**

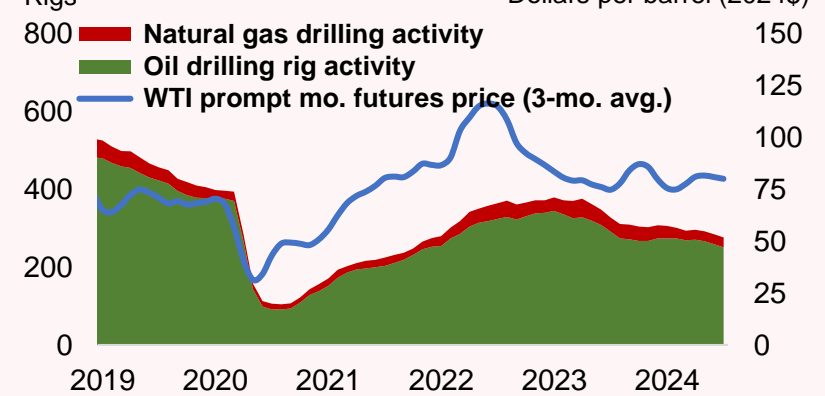
Million barrels per day oil-equivalent



**EIA estimates June 2024 production growth across Texas shale basins has continued to grow year-over-year in the Permian (+9.2% y/y) but fallen in the Eagle Ford (-3.7% y/y), Haynesville (-6.8% y/y), and Anadarko (-1.8% y/y) regions.**

**Texas drilling activity and WTI crude oil futures prices**

Rigs Dollars per barrel (2024\$)

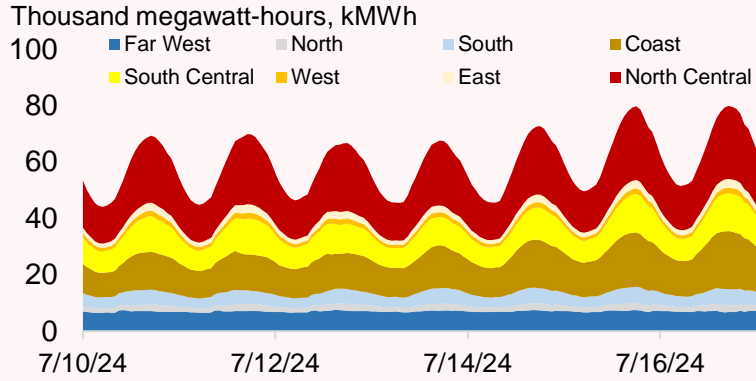


**Texas' drilling rig activity held steady** for the week ended July 26 per Baker Hughes. Texas had 251 oil-directed rigs (up by 1 rig w/w) and 25 natural gas-directed rigs (down by 1 rig w/w).

# Texas Electricity Analysis

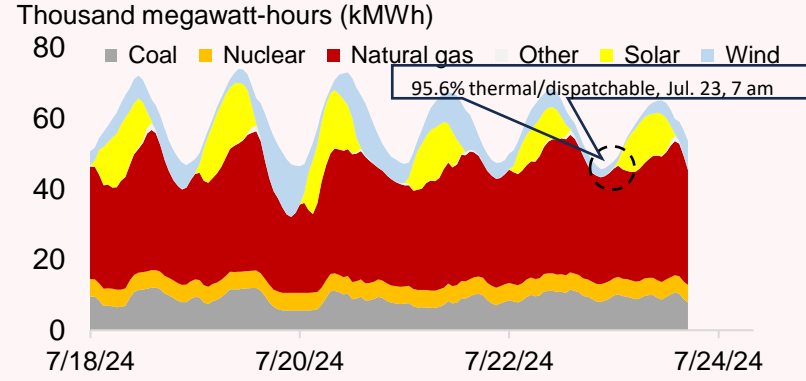


## ERCOT electricity load by region



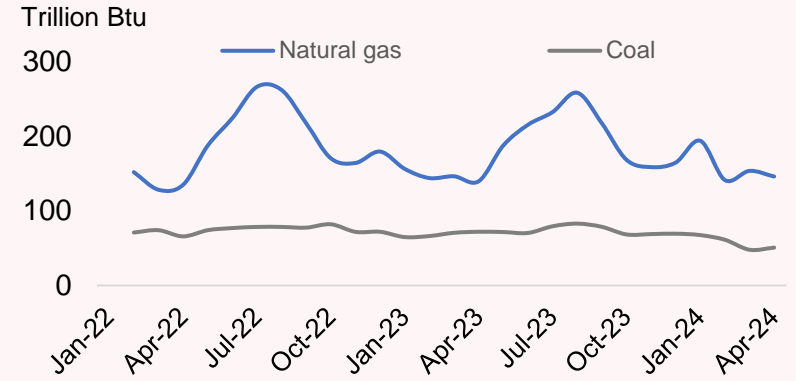
**Texas' maximum load fell by 1.1% w/w.** For July 17-23, ERCOT's average hourly electricity load averaged 79.8 kMWh, steady versus the prior week, while the maximum load hourly load of 79.8 kMWh fell by 1.1% w/w. Variability remained highest in the Coast and East regions.

## ERCOT hourly electricity generation by source



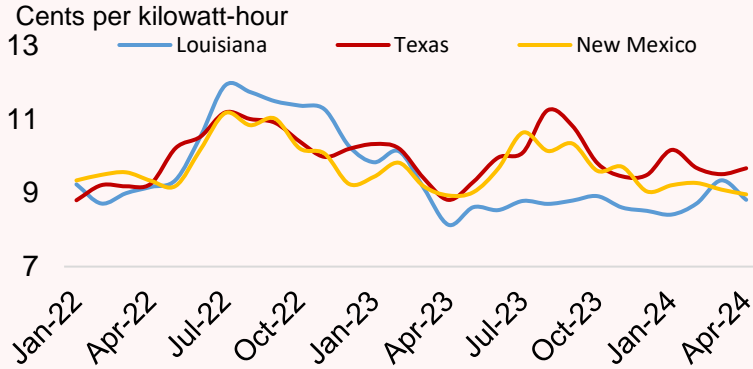
**ERCOT's generation eased vs. the prior week.** ERCOT's hourly electricity generation for the period July 17-23 ranged between 46 and 74 kMWh with a standard deviation of 8.1 kMWh. Thermal and dispatchable sources generated as much as 95.6% of the region's power during the period in the morning of July 23.

## Electricity plant receipts of natural gas and coal



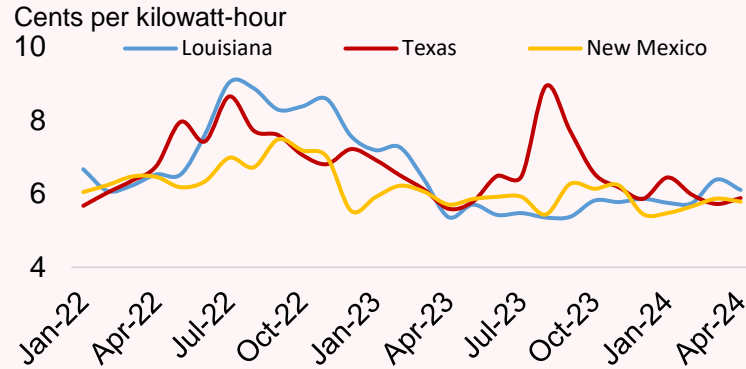
**Texas' lower natural gas receipts enabled by higher inventories.** Although Texas' thermal and dispatchable energy needs have continued to grow, the maximum monthly quantities of natural gas and coal that generators received have fallen over the past two years, thanks at least in part to greater inventories. In the latest data, Texas' natural gas storage of 687 bcf in Feb. 2024 increased by 143 bcf (26.4%) versus its level in Feb. 2022.

## Electricity prices – average across all end-use sectors



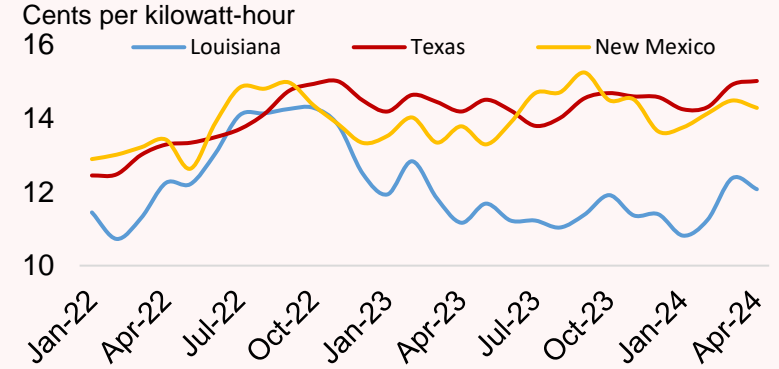
**Texas' electricity prices rose in April.** The average price of electricity in Texas (9.67 cents per kWh) increased by 9.7% y/y in April, while those in Louisiana and New Mexico remained lower.

## Industrial electricity prices



**Texas' industrial electricity prices increased.** Texas' industrial electricity prices averaged 5.88 cents per kWh in April, up by 5.2% y/y – and were higher with those in New Mexico but lower than those in Louisiana.

## Residential electricity prices



**Texas' residential electricity prices increased.** For Texas' residential consumers, the average price of electricity (15.02 cents per kWh) rose by 5.8% y/y in April and increased to 5.1% above that in New Mexico and 24.3% above that in Louisiana.



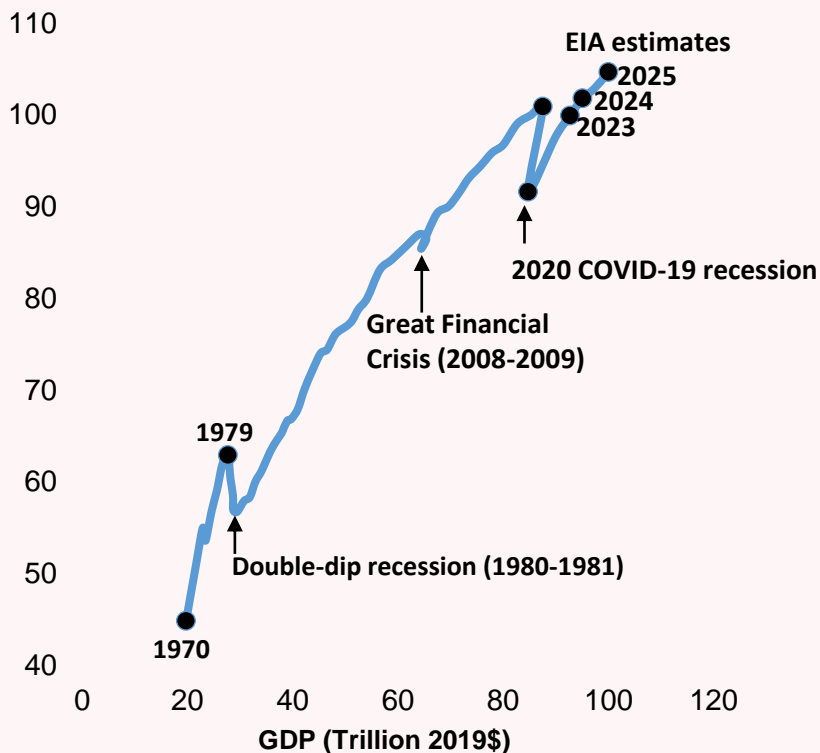
# Global Oil Market Balance Projections to 2025



- **Solid demand and inventory drawdowns.** EIA's July 2024 Short-Term Energy Outlook essentially moved 0.1 mb/d of demand growth from 2024 into 2025, resulting in global demand of 102.9 mb/d this year and 104.6 mb/d next year – both record highs.
- **For oil inventories, EIA projects global stock withdrawals to continue through Q1 2025,** including 0.8 mb/d in Q3 2024 and as high as 1.0 mb/d in Q1 2025, corresponding with Brent crude oil prices of \$86.37 in 2024, compared with \$85.50 per barrel currently.

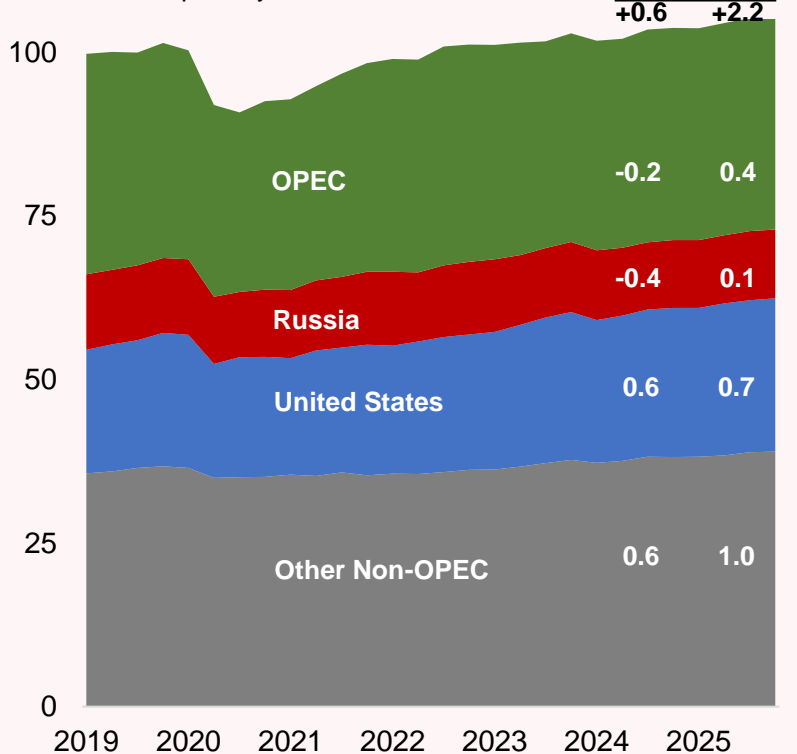
## Global oil demand and GDP

Million barrels per day (mb/d)



## Oil production by country/region

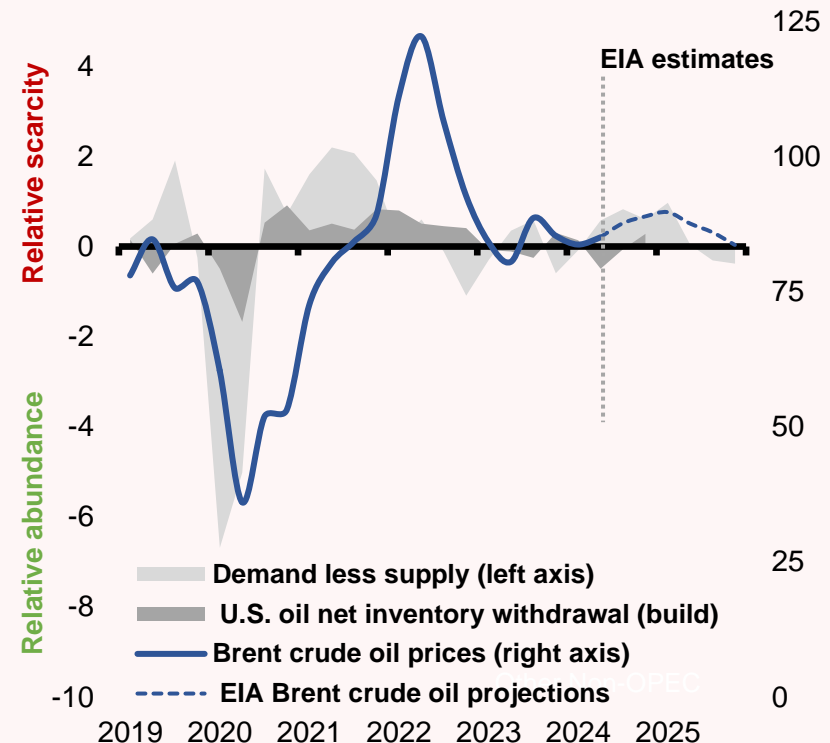
Million barrels per day, mb/d



## Global demand/supply & Brent prices

Million barrels per day (mb/d)

2024\$/Bbl



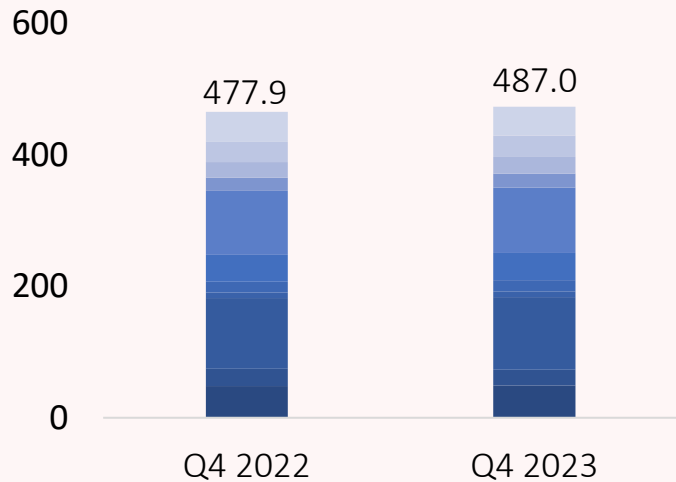
# Texas' oil and natural gas industry wages reached \$14.6 billion in Q4 2023



- ▶ Texas' oil and natural gas industry employment and wages grew by 1.9% y/y and 5.8% y/y, respectively, in Q4 2023, raising the totals to over 487,000 jobs and \$14.6 billion in wages – the highest fourth quarter wages on record.
- ▶ Over 40% of the job growth occurred in the upstream and supporting services, 25% in petroleum wholesale and retail trade, and 20% in oil & gas field machinery and equipment manufacturing per data the latest data (released on May 16, 2024) from the U.S. Census Bureau and Texas Workforce Commission.

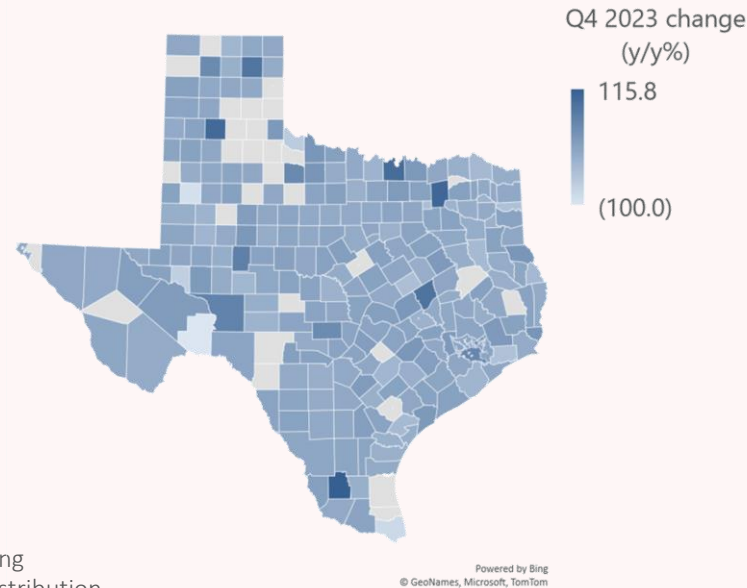
## Texas oil and natural gas industry direct employment rose by +1.9% y/y in Q4 2023

Thousand Jobs



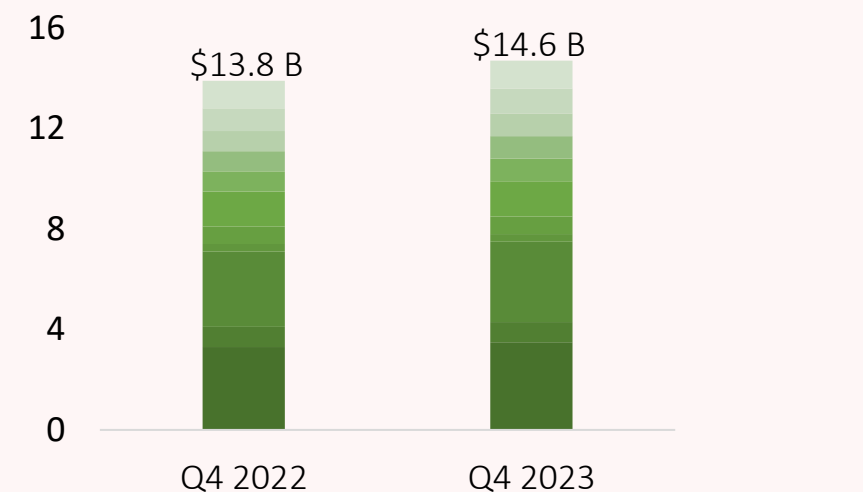
- Oil & gas extraction
- Support activities for o&g ops.
- Petroleum refineries
- Gas stations & fuel dealers
- All other\*
- Pipeline construction
- Oil & gas drilling
- Natural gas distribution
- Petrochemical mfg.
- Pipeline transportation
- Oil & gas field mach. and eq. mfg.

\* Other industry segments include petroleum and pet. product wholesalers, lubricant mfg., asphalt mfg., industrial sand mining, nitrogenous fertilizer mfg., basic organic chem. mfg., plastics and resin mfg.



## Texas oil and natural gas industry direct wages rose by +5.8% y/y in Q4 2023

Billion dollars



- Pipeline construction
- All other\*
- Gas stations & fuel dealers
- Petroleum refineries
- Support activities for o&g ops.
- Oil & gas extraction
- Oil & gas field mach. and eq. mfg.
- Pipeline transportation
- Petrochemical mfg.
- Natural gas distribution
- Oil & gas drilling

**R. Dean Foreman, Ph.D.**  
**dforeman@txoga.org**

