TXOGA CHARTBOOK™

July 15, 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 15, 2024

- **U.S. economic indicators remain solid.** The Aruoba-Diebold-Scotti (ADS) Business Conditions Index from the Federal Reserve Bank of Philadelphia showed an acceleration in early July, suggesting improved economic growth at the beginning of Q3 2024. High-yield corporate bond yields dropped by 0.2% week-over-week (w/w) as of July 12, reversing recent increases.

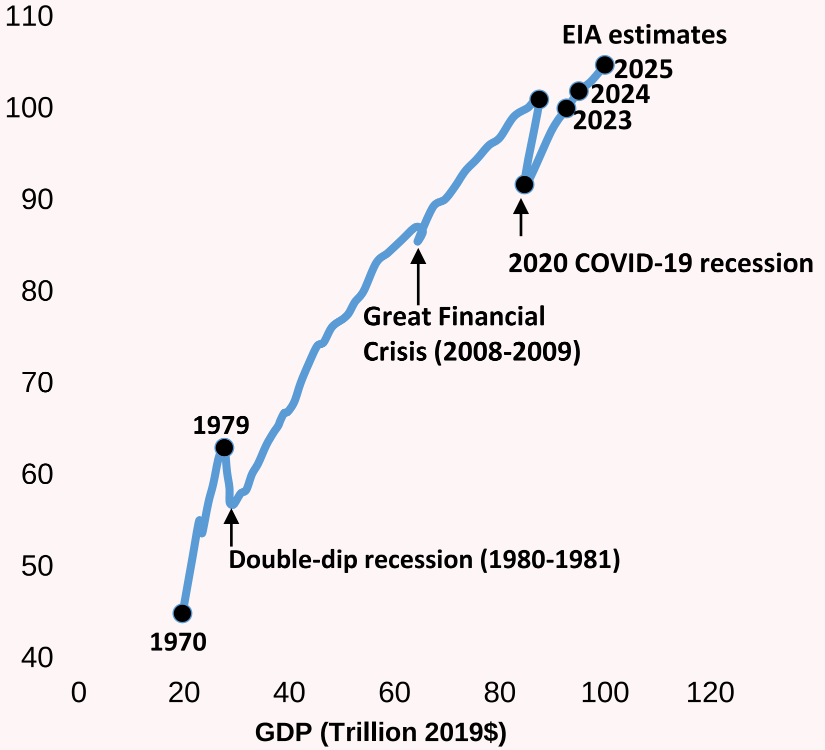
- **Oil market fundamentals tightened.** As highlighted in the Chart of the Week, the U.S. Energy Information Administration's July Short-term Energy Outlook raised the outlook for record-high global oil demand in 2025 and projected a market deficit with continued quarterly inventory withdrawals of as much as 1.0 million barrels per day (mb/d) in Q1 2025. U.S. weekly data as of July 5 showed that the net impact of solid demand and exports versus record-high crude oil production of 13.3 mb/d resulted in lower crude oil inventories by 3.4 million barrels (mb), following one of the largest drawdowns on record (12.2 mb) in data from the past 40 years.

- **Natural gas inventories above their historical range exert downward price pressure.** Natural gas inventories rose by 2.1% week-over-week (w/w) to 3.2 trillion cubic feet, which was 9% above the top of the 5-year range. Strong seasonal inventory building has continued despite solid domestic demand and natural gas exports, according to EIA estimates.

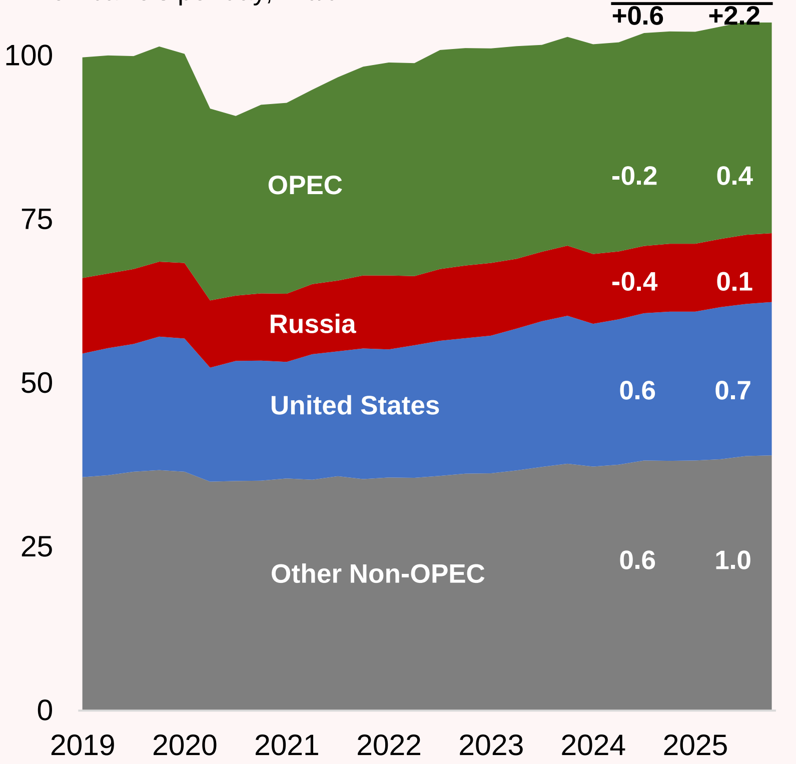
TXOGA Chart of the Week: Global Oil Market Balance Projections to 2025

- **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.

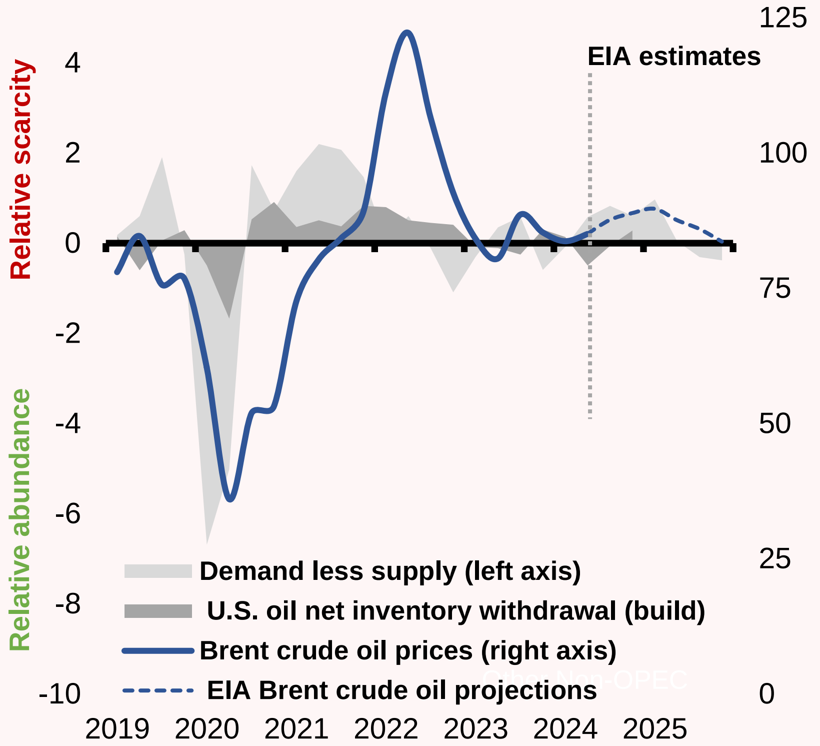
Global oil demand and GDP
Million barrels per day (mb/d)



Oil production by country/region
Million barrels per day, mb/d

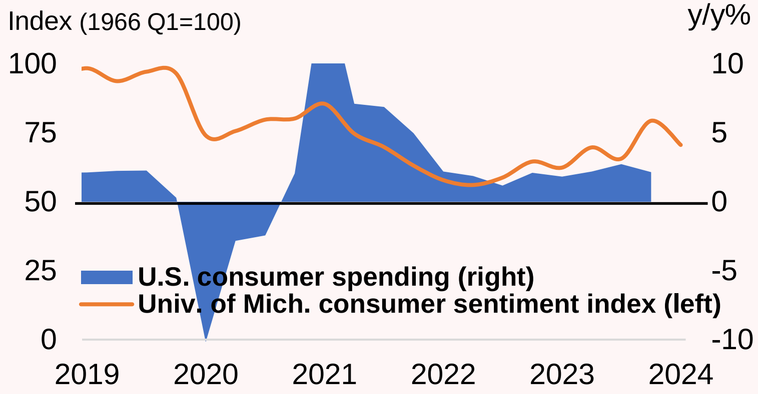


Global demand/supply & Brent prices
Million barrels per day (mb/d)
2024$/Bbl



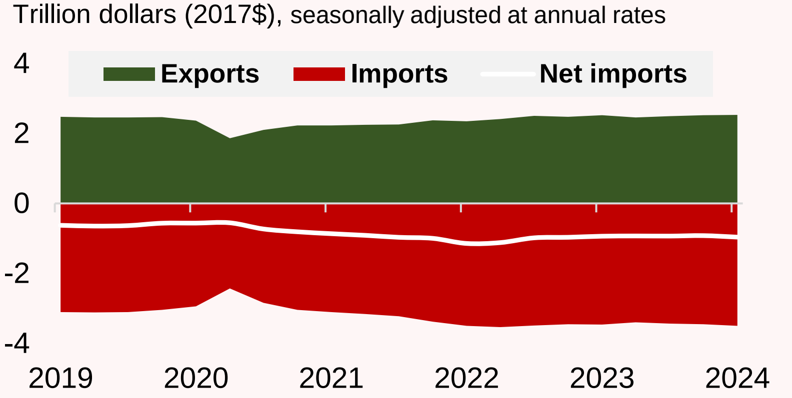
U.S. economic indicators

Consumer sentiment vs. spending



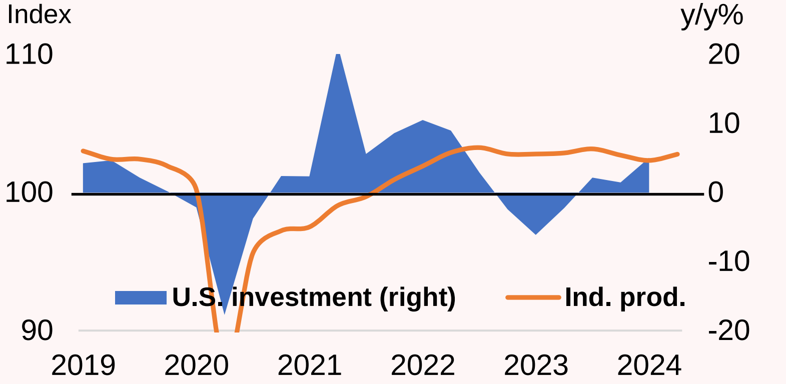
Consumer spending was revised downwards by 0.1% to a rate of 2.16% y/y in the final GDP readings for Q1 2024, per the Bureau of Economic Analysis. Consumer sentiment, according to the University of Michigan's survey, decreased by 10% between Q1 and Q2 2024. Historically this implies slower spending growth for Q2 2024.

Real net exports of goods and services



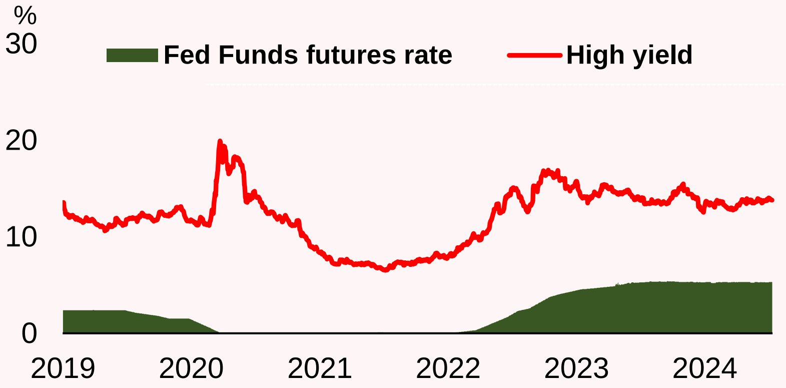
U.S. trade deficit revised to be narrower. The U.S. real trade deficit ran at an annualized rate of $960B in Q1 2024 per BEA final estimates, down from a prior estimate of $975B. On a nominal basis, the trade surplus for petroleum and products was revised downwards to an annualized rate of $52 billion in Q1 2024 (vs. $36.7 billion a year ago), the highest quarterly petroleum trade surplus on record.

Industrial production and investment growth



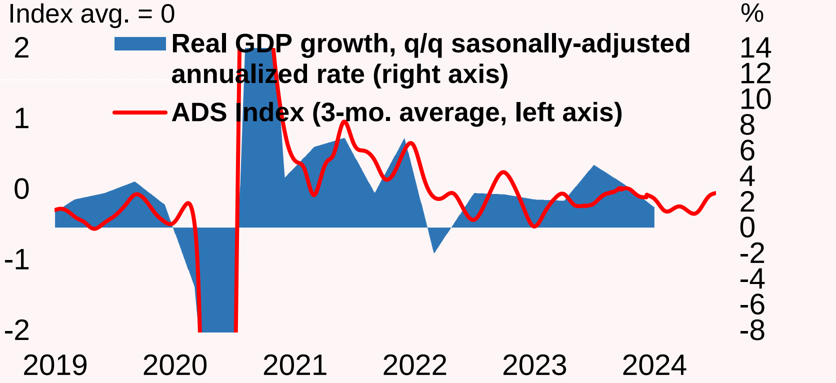
U.S. private domestic investment growth was revised upwards to 5.0% y/y (vs. an initial estimate of 4.5% y/y). Industrial production rose by 0.4% y/y in May and remained consistent with further economy-side investment growth.

Fed Funds rate and CCC and lower corporate bond yields



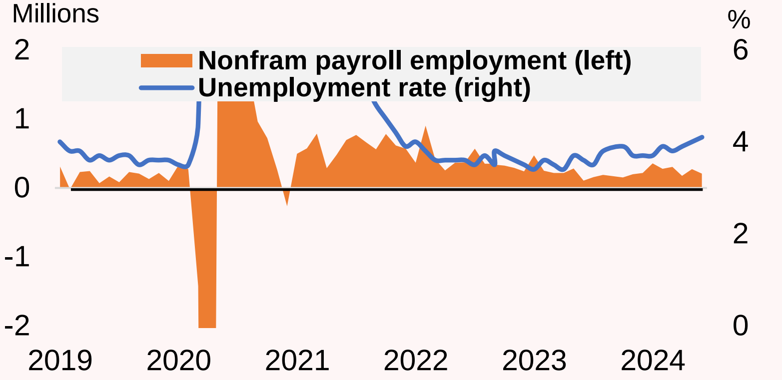
Bond premium for low credit fell. High yield (HY) rates reflect debt costs for firms with below-investment grade credit quality. For the week ended July 12, HY rates fell by 0.2% w/w to 13.8%, while Fed Funds futures rates remained at 5.3%, resulting in a premium for low credit quality of 8.5%.

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



The ADS index has strengthened, 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 accurately reflected growth in Q1 2024 real GDP and with recent increases remains consistent with GDP growth in Q2 and Q3.

Nonfarm payroll employment & unemployment rate



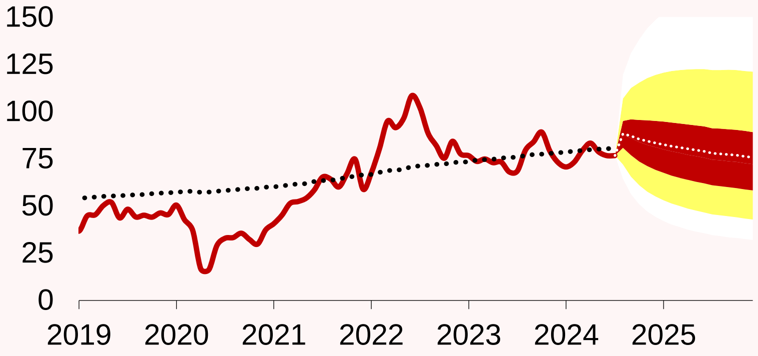
Solid labor market growth continued in June. The employment situation is a lagging indicator of GDP growth. The U.S. unemployment rate rose by 0.1% m/m to 4.1 in June per BLS, while non-farm payrolls increased by 206,000.

sources: FRED; Univ. of Michigan; BEA; CME Group; Federal Res. Board; Philadelphia Fed. Res.; Bureau of Labor Statistics

U.S. oil market indicators

WTI crude oil price mean reversion analysis

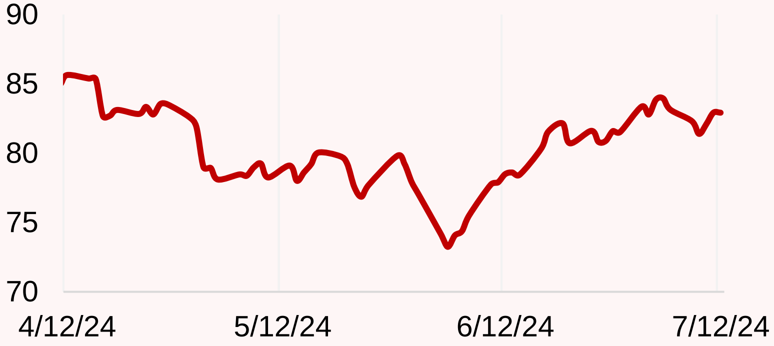
Dollars per barrel (2024$)



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.

WTI crude prompt month futures prices

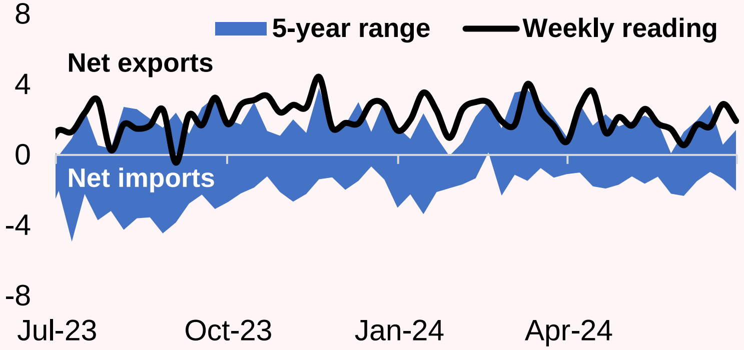
Dollars per barrel



WTI crude oil prices held steady at around $83 per barrel for the week ended July 12 in response to continued domestic crude inventory drawdowns and a continued Middle East geopolitical premium.

U.S. petroleum net exports (imports)

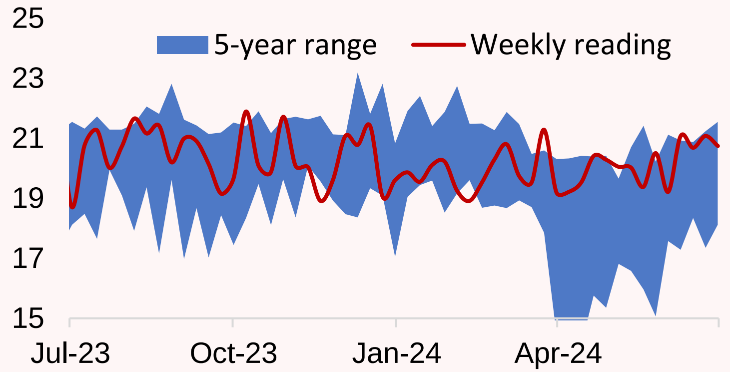
Million barrels per day, mb/d



Petroleum net exports fell. The U.S. was a petroleum net exporter of 1.9 mb/d for the week ended July 5, down by 1.0 mb/d from the prior week but remained above the 5-year range.

U.S. petroleum demand

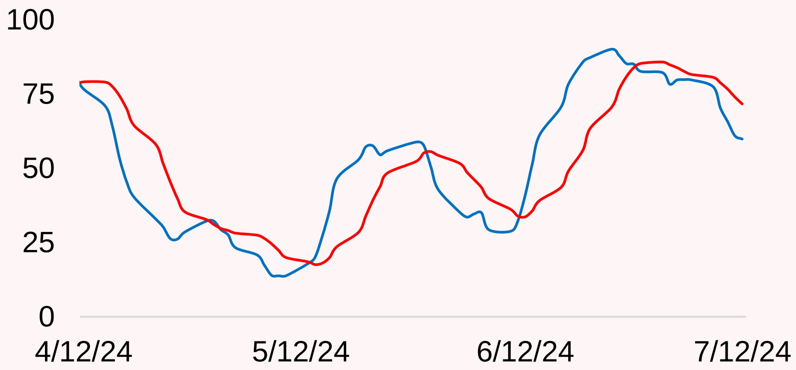
Million barrels per day (mb/d)



Petroleum demand decreased. U.S. petroleum demand, as measured by deliveries, increased by 0.3 mb/d w/w to 20.7 mb/d for the week ended July 5.

WTI crude prompt month futures slow stochastic

Index level

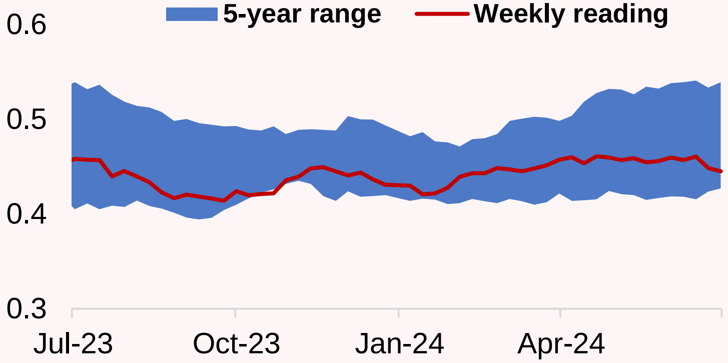


%K, %D 5 bars

Price momentum remained eased during the week ended July 12.

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

Billion barrels

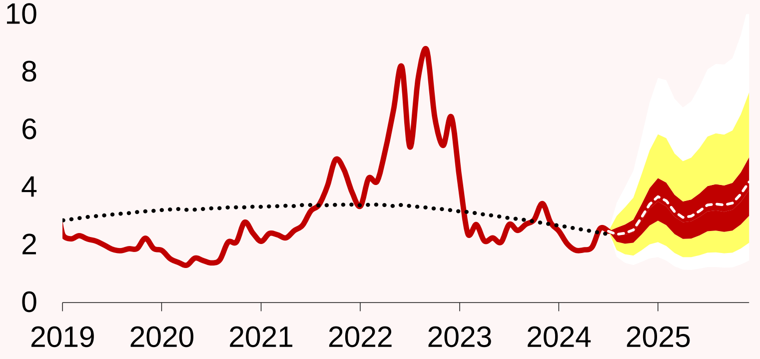


Inventories decreased. Following one of the largest weekly inventory drawdowns on record since 1982, U.S. ending stocks of crude oil excluding the Strategic Petroleum Reserve (SPR) decreased by another 3.4 million barrels (mb) for the week ended July 5

U.S. natural gas market indicators

Natural gas price mean reversion analysis

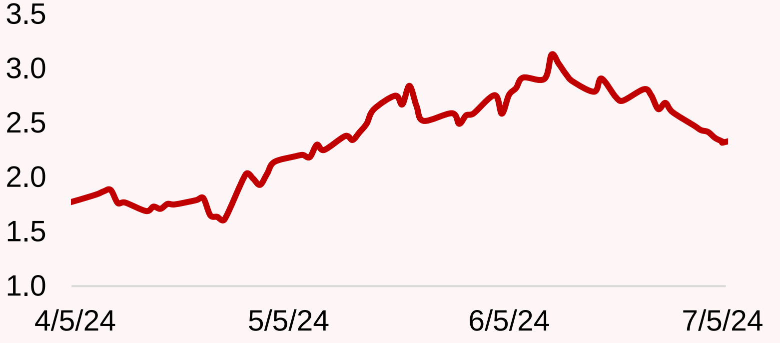
Dollars per mmBtu (2024$)



Near-term natural gas futures prices have aligned the historical mean reversion target but rise by 46% 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

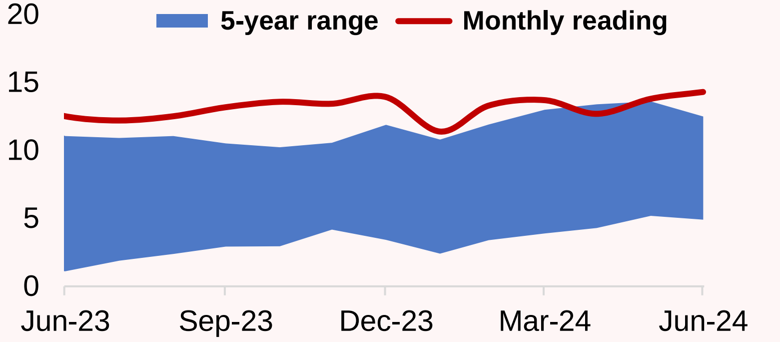
Dollars per million Btu



Natural gas prices at Henry Hub head remained near $2.30 per million Btu for the week ended July 12, due to historically strong inventory levels.

U.S. natural gas net exports

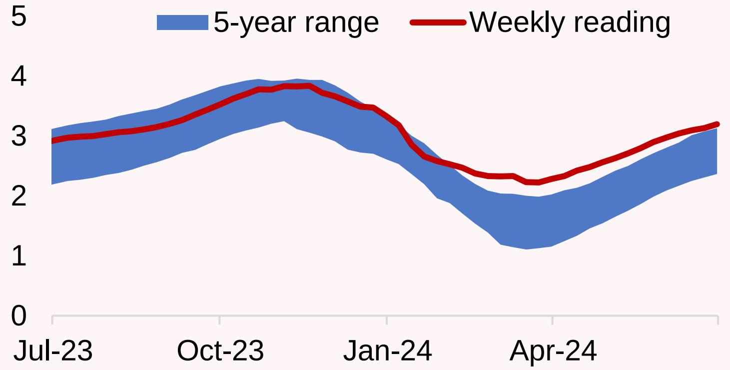
Billion cubic feet per day, bcf/d



Record-high natural gas net exports. Record-high U.S. natural gas net exports in June of 14.3 bcf/d rose from 13.8 bcf/d in May as estimated by EIA.

U.S. weekly working gas storage

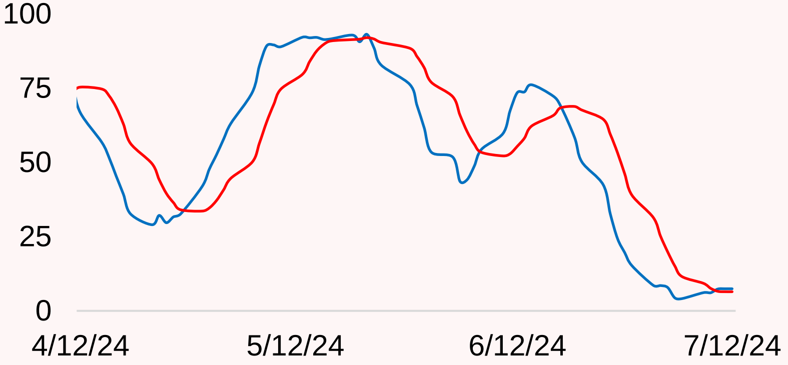
Trillion cubic feet (tcf)



Storage injections increased. Working gas in underground storage rose by 2.1% w/w to 3.2 tcf as of July 5 and to 9% above the top of its 5-year range (vs. 7% above the 5-year range during the prior week).

Natural gas futures slow stochastic

Index level

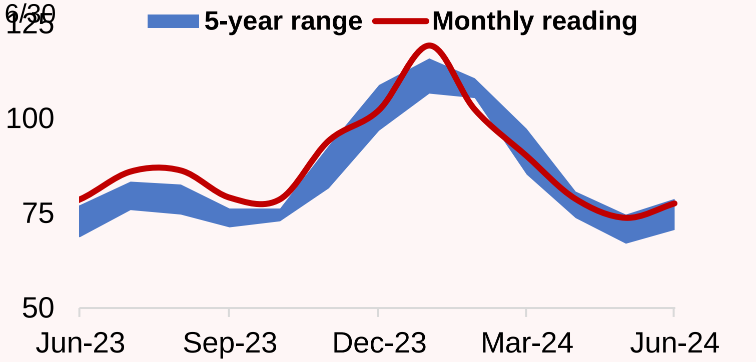


%K, %D 5 bars

Natural gas price momentum decreased for the week ended July 12.

U.S. natural gas consumption

Billion cubic feet per day, bcf/d

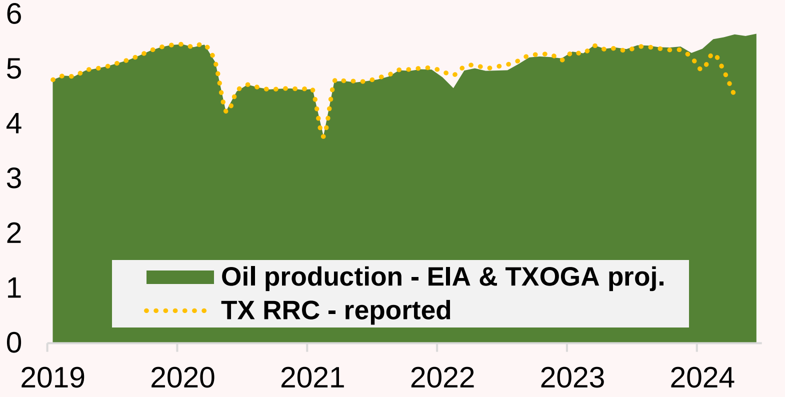


Consumption increased. U.S. natural gas consumption rose by 3.8 bcf/d m/m to 77.6 bcf/d in June as estimated by EIA.

sources: U.S. Energy Information Administration; CME Group; Bureau of Labor Statistics; TXOGA analysis

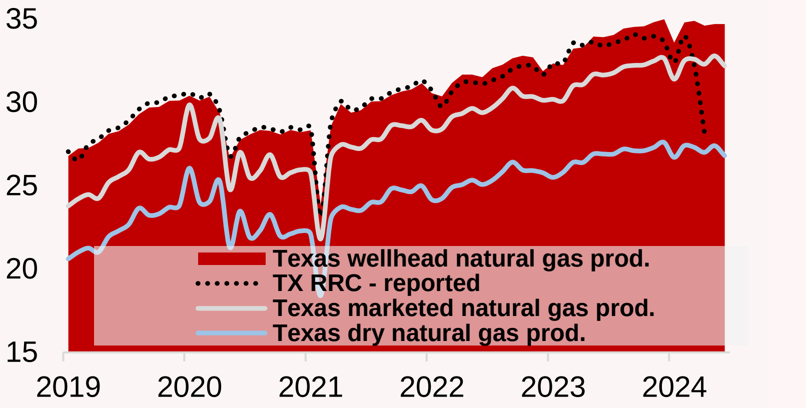
Texas’ oil and natural gas production

Texas crude oil production, Jan. 2019 – June 2024
Million barrels per day (mb/d)



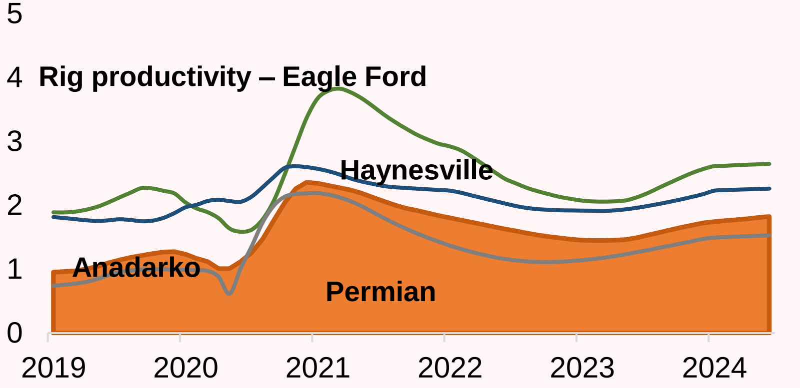
Oil production held strong. Texas’ oil production edged up over 5.6 mb/d in April per EIA. TXOGA estimates that Texas crude oil production held at 5.6 mb/d June.

Texas natural gas production, Jan. 2019 – June 2024
Billion cubic feet per day (bcf/d)



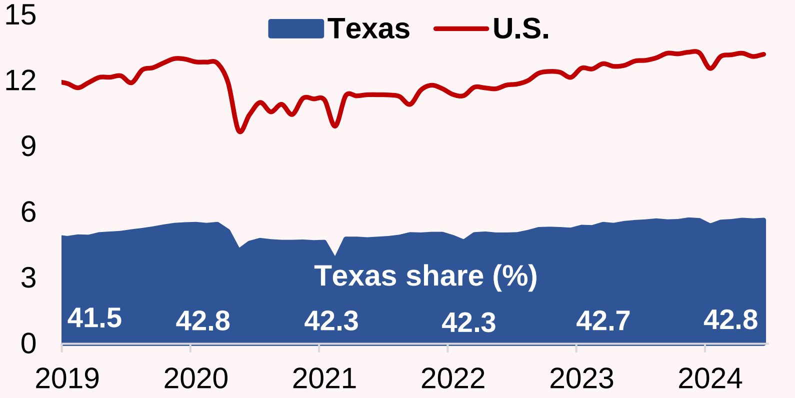
Natural gas production remained strong. Texas produced of 34.6 bcf/d of natural gas gross withdrawals and 32.3 bcf/d of marketed production in April per EIA.TXOGA estimates that Texas’ marketed production fell to 32.2 bcf/d in June with 27.0 bcf/d of dry gas production.

Texas rig productivity by basin – new monthly prod. per rig
Thousand barrels per day oil-equivalent, kb/doe



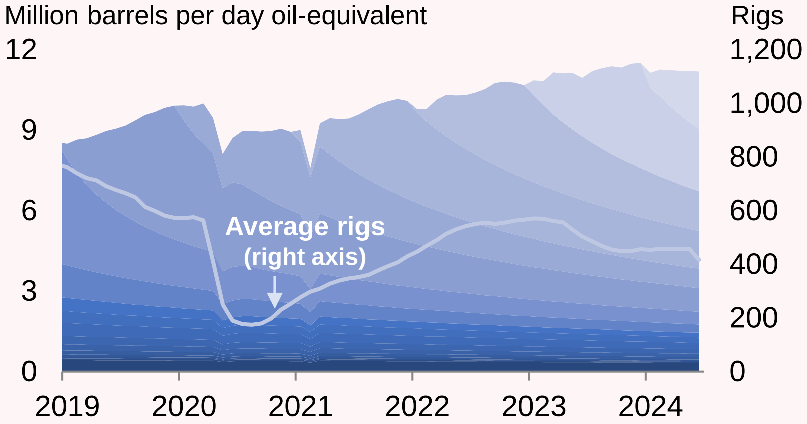
Strong productivity to start the year. EIA estimates of rig productivity for June 2024 show continued increases year-over-year across the major Texas basins, including the Anadarko (+20.7% y/y), Eagle Ford (+24.5% y/y), Permian (+21.9% y/y), and Haynesville (+15.3% y/y).

U.S. and Texas crude oil production, Jan. 2019 – June 2024
Million barrels per day (mb/d)



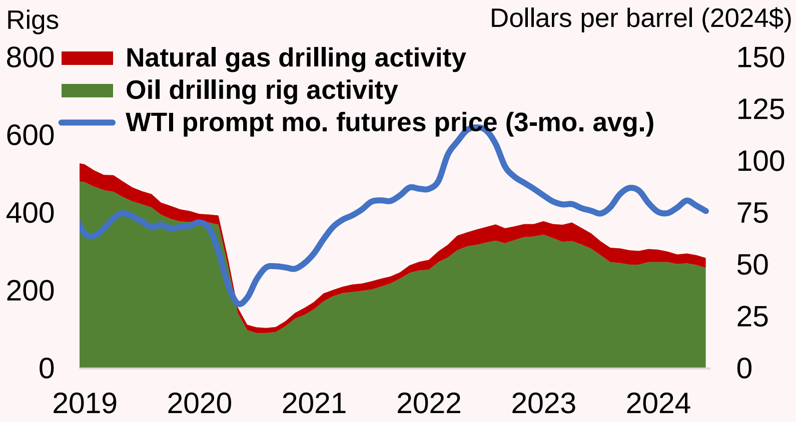
Texas’ share increased. Texas accounted for an estimated 42.8% of U.S. crude oil production in June by TXOGA’s estimates.

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

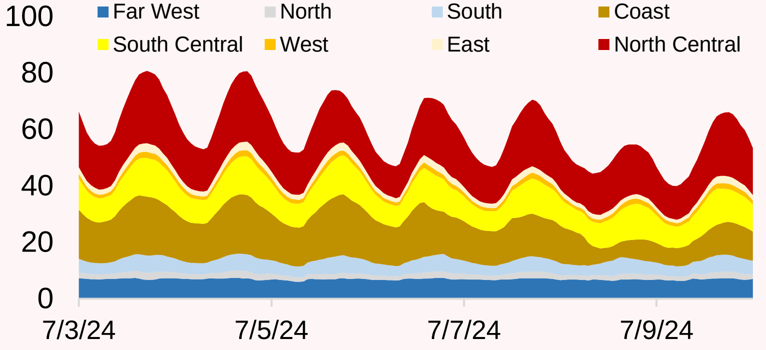


Texas’ drilling rig activity decreased for the week ended July 12 per Baker Hughes. Texas had 250 oil-directed rigs (down by 2 rigs w/w) and 26 natural gas-directed rigs (up by 1 rig w/w).

Texas Electricity Analysis

ERCOT electricity load by region

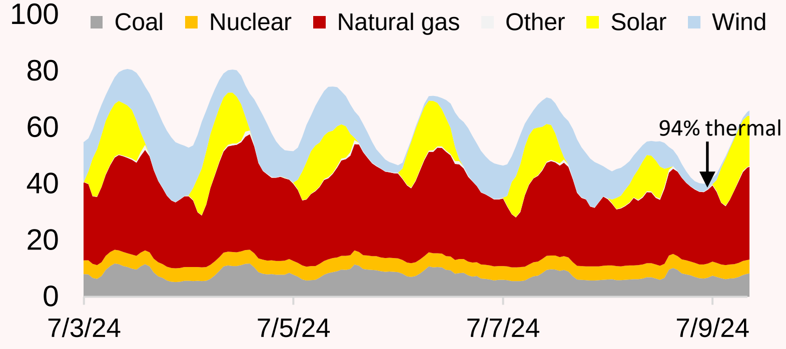
Thousand megawatt-hours, kMWh



Texas' maximum load decreased. For July 3-9, ERCOT's average hourly electricity load fell by 11.8% w/w, and the maximum hourly load held steady at 81 kMWh. Variability was the highest in the Coast and East regions.

ERCOT hourly electricity generation by source

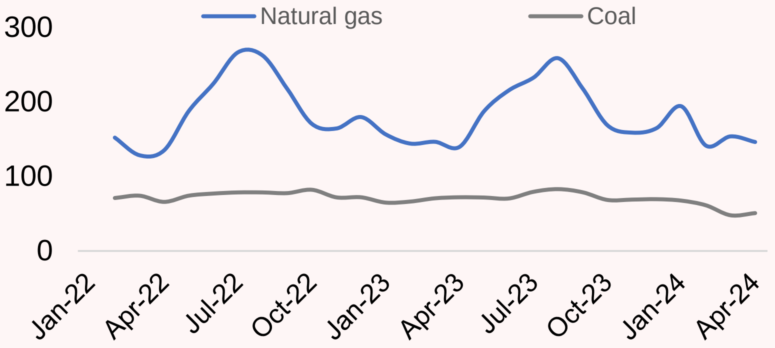
Thousand megawatt-hours



Thermal & dispatchable generation delivered upwards of 94% of ERCOT's generation. ERCOT's hourly electricity generation for the period June 3-July 9 ranged between 40 and 81 kMWh with a standard deviation of 10.4 kMWh, up by 17.4% from the prior week. Thermal and dispatchable sources generated as much as 94% of the region's power during the period in the morning of July 9.

Electricity plant receipts of natural gas and coal

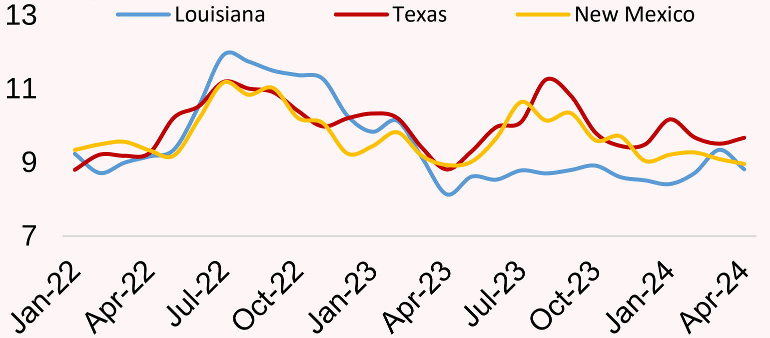
Trillion Btu



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

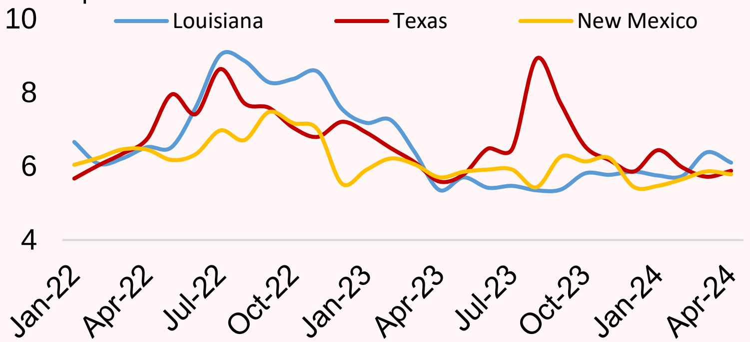
Cents per kilowatt-hour



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

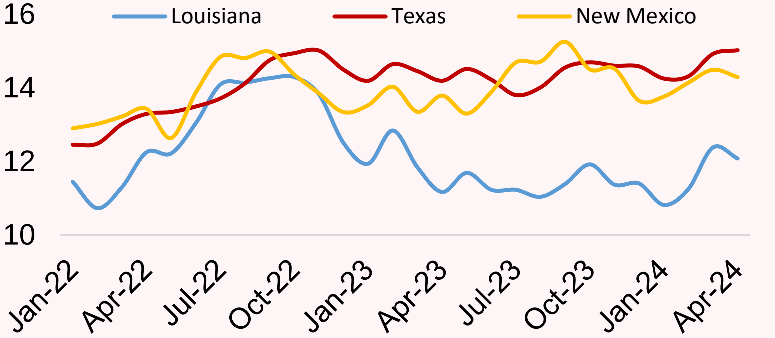
Cents per kilowatt-hour



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

Cents per kilowatt-hour



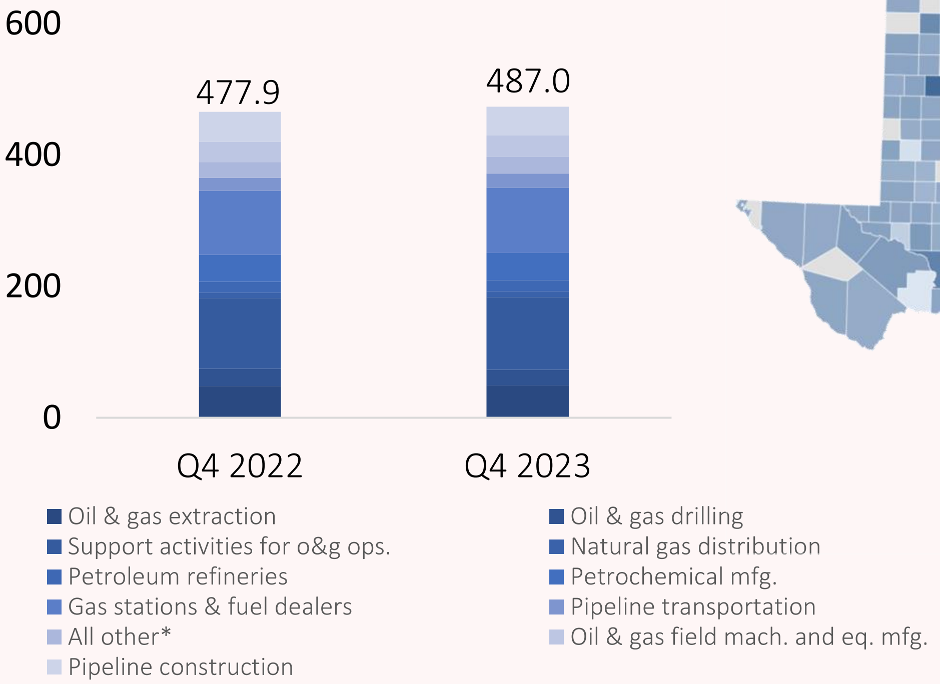
Texas' residential electricity prices increased. For Texas' residential consumers, the average price of electricity (15.02 cents per kWh) rose by 5.8% y/y in April and increased to 5.1% above that in New Mexico and 24.3% above that in Louisiana.

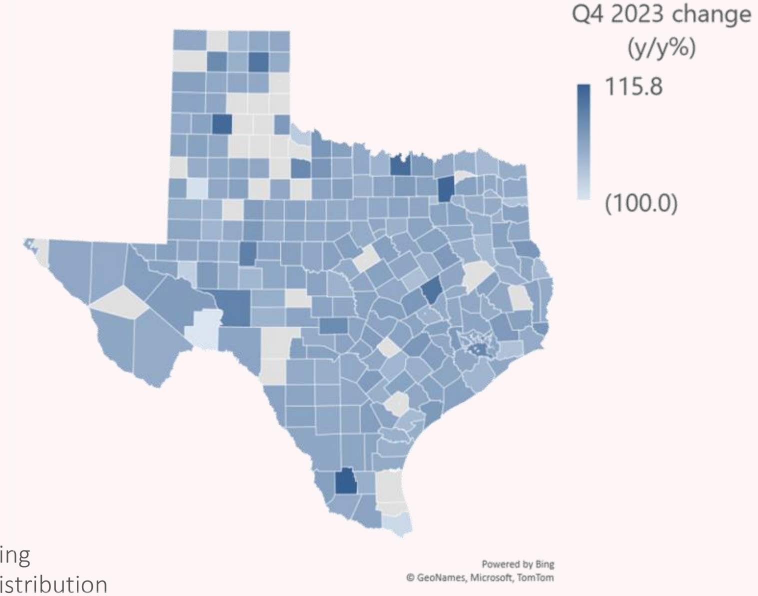
Texas' oil and natural gas industry wages reached $14.6 billion in Q4 2023

- 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

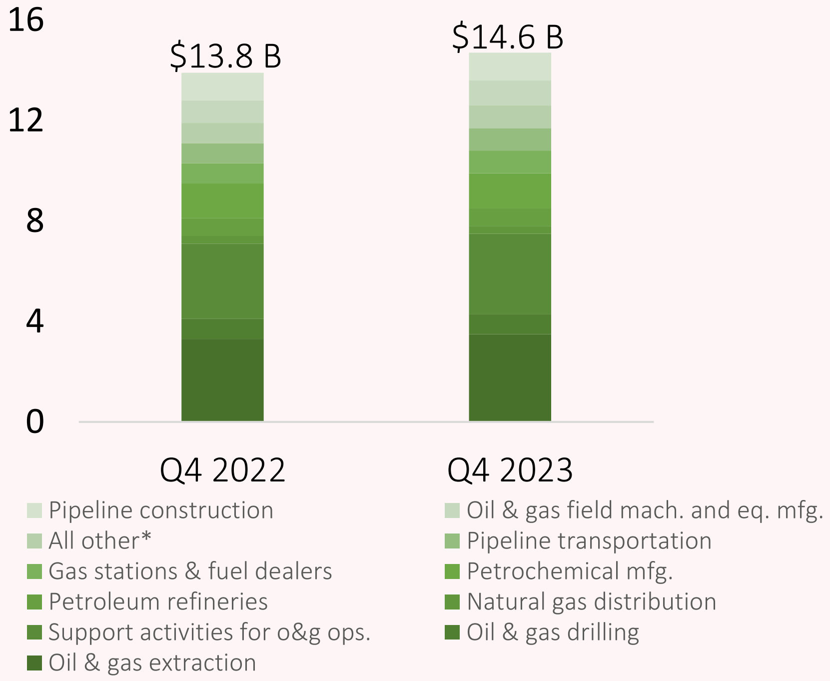
Thousand Jobs





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

Billion dollars



* 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.

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