



June 24, 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 June 24, 2024

- **U.S. economic indicators reveal industrial strength but ongoing consumer pressures.** Consumer sentiment, as measured by the University of Michigan's initial June survey, fell by 5.5% from May due to heightened concerns over high prices and weakening incomes. However, U.S. industrial production rose by 0.4% year-over-year (y/y) in May, marking its strongest increase since December 2023. Business conditions, as indicated by the ADS Index from the Philadelphia Federal Reserve Bank, have improved in June, consistent with GDP growth in Q2 2024. Meanwhile, corporate bond premiums for low credit quality remained steady.
- **Oil market fundamentals tightened.** U.S. weekly data as of June 7 showed increases in domestic petroleum demand and exports that together outpaced historically strong domestic crude oil production, resulting in a 2.5 million barrels (mb) drawdown in crude oil inventories. The [Chart of the Week](#) checks in on U.S. transportation fuels demand through the first month of Summer 2024, showing motor gasoline demand rose into the top 25% of the five-year range and jet fuel demand was at the top of its historical range and above pre-pandemic levels.
- **As natural gas storage levels continued to increase strongly, natural gas prices receded to \$2.70 per million Btu.** With natural gas storage levels currently more than 20% above the maximum of the five-year range and increasing by 2.4% week-over-week as of June 14, natural gas futures prices for July delivery fell by 14% over the past 10 days and into line with their historical mean.

TXOGA Chart of the Week: 2024 U.S. Summer Fuel Demand



U.S. transportation fuels demand held strong through the first month of Summer 2024

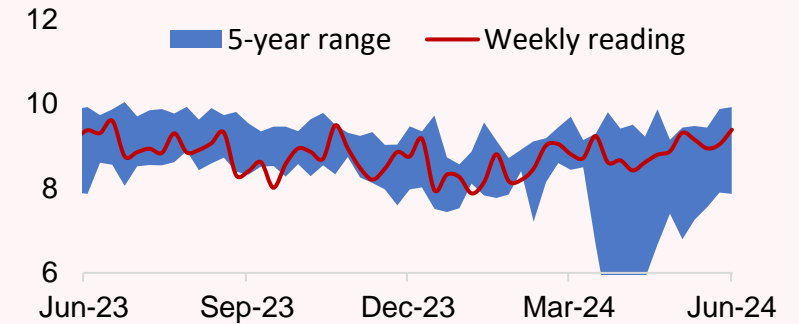
- ▶ **A solid summer travel season is under way.** U.S. motor gasoline demand, as measured by deliveries, rose to 9.4 mb/d during the week ended June 14, 2024, and stood in the top quarter of the five-year range.
- ▶ Diesel fuel demand of 4.0 mb/d stood in the middle of its five-year range.
- ▶ Jet fuel demand of 1.7 mb/d remained at the top of its five-year range and exceeded pre-pandemic levels. This has remained consistent with International Air Transport Association ([IATA](#)) tracking that shows strong air passenger travel and cargo growth so far in Q2 2024.

Real prices remain historically low

- ▶ While broad price inflation stands noticeably among consumers' top concerns, U.S. average motor gasoline prices as of June 14 were among the lowest 38% of all weeks since 2007, adjusted for price inflation, per data from EIA. And diesel fuel prices were among the lowest 30% of all weeks since 2007, adjusted for price inflation.

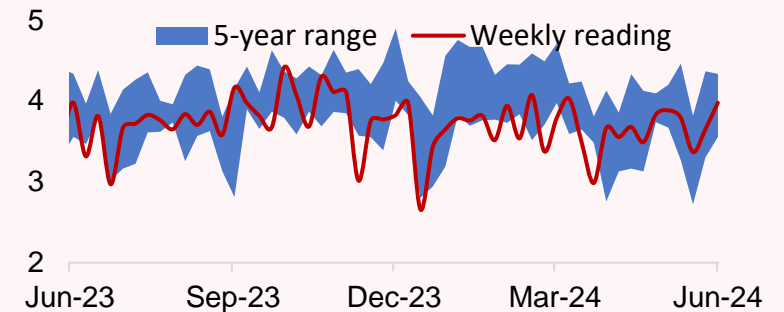
U.S. motor gasoline demand

Million barrels per day (mb/d)



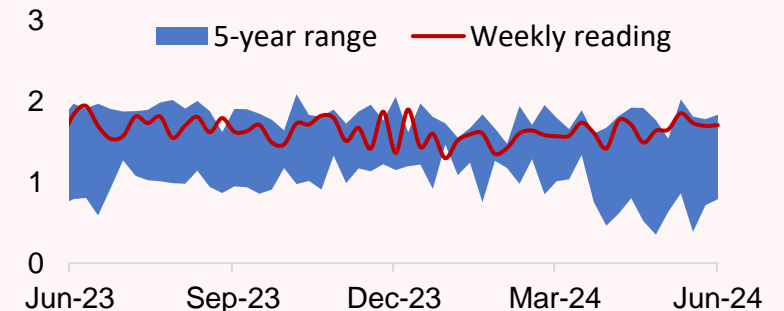
U.S. diesel fuel demand

Million barrels per day (mb/d)



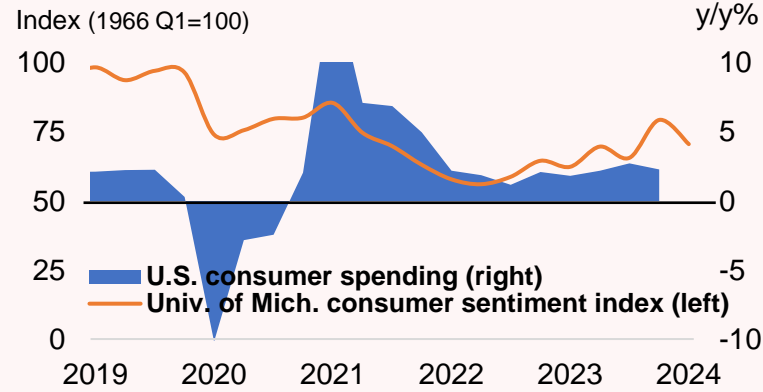
U.S. kerosene-type jet fuel demand

Million barrels per day (mb/d)



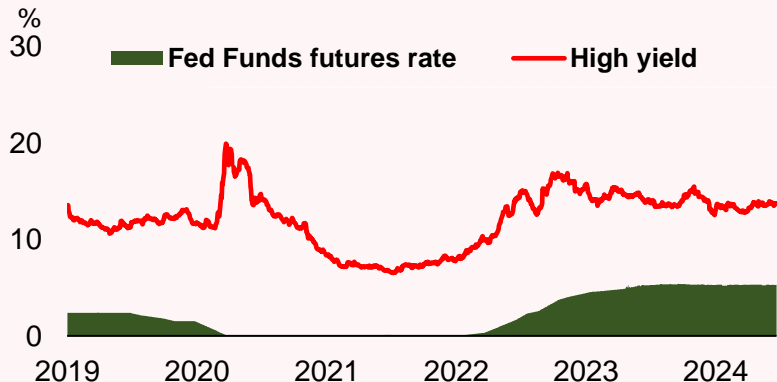
U.S. economic indicators

Consumer sentiment vs. spending



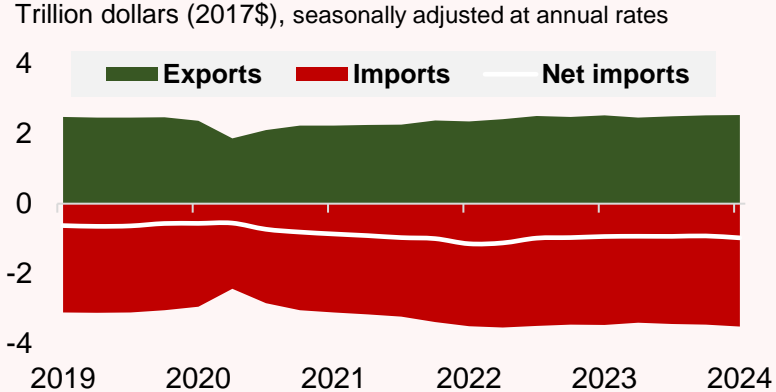
Consumer sentiment fell by 5.5% m/m in early June, according to the University of Michigan's survey, but remains consistent with continued consumer spending growth in Q2 2024. The index decreased to 65.6 in the initial June reading from 69.1 in May – and is down from 77.2 in April due to broad-based concerns for inflation, unemployment, and interest rates.

Fed Funds rate and CCC and lower corporate bond yields



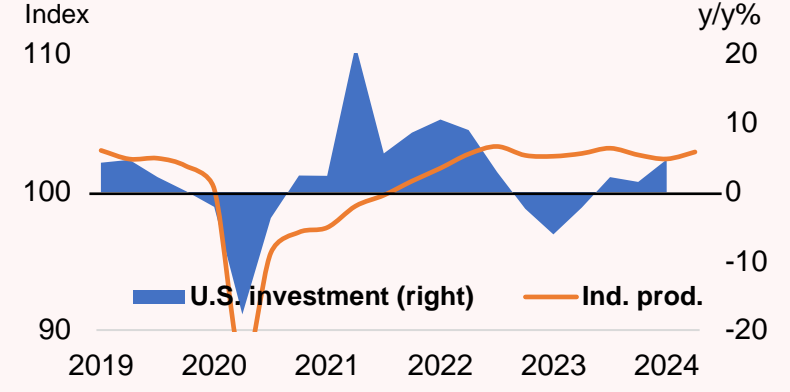
Bond premium for low credit held steady. High yield (HY) rates reflect debt costs for firms with below-investment grade credit quality. For the week ended June 21, HY rates edged up to 13.7%, while Fed Funds futures rates remained at 5.3%, resulting in little change to the premium for low credit quality of 8.4%.

Real net exports of goods and services



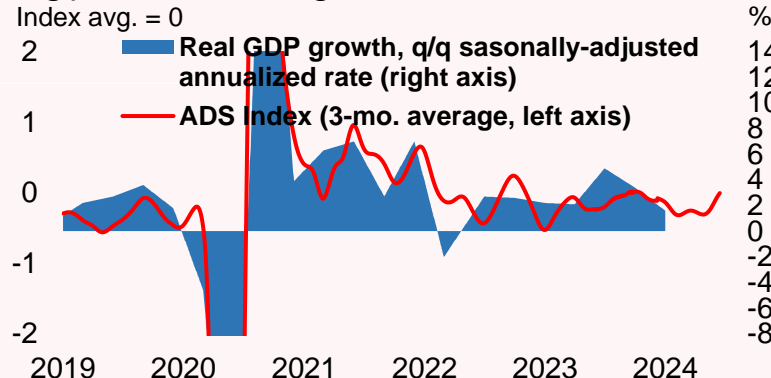
U.S. trade deficit revised to be larger. The U.S. real trade deficit ran at an annualized rate of \$975 billion in Q1 2024 per BEA initial estimates. On a nominal basis, the trade surplus for petroleum and products was revised upward to an annualized rate of \$56 billion in Q1 2024, vs. \$36.7 billion a year ago, to the highest quarterly petroleum trade surplus on record.

Industrial production and investment growth



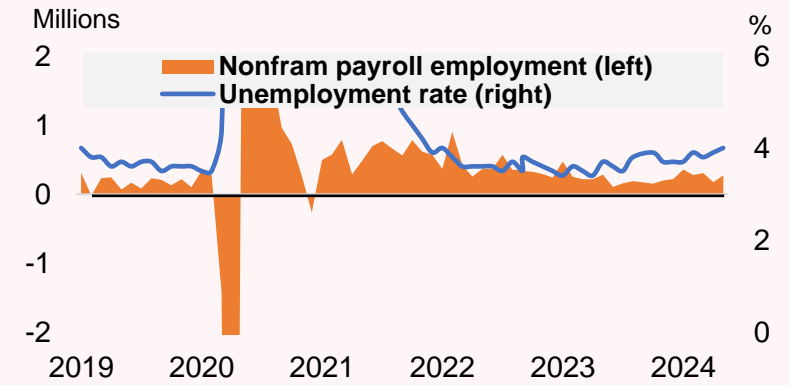
Industrial production rose by 0.4% y/y in May and remained consistent with economy-side investment growth, which increased by 4.7% y/y in Q1 2024.

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



The ADS index has strengthened, suggesting solid Q2 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.

Nonfarm payroll employment & unemployment rate

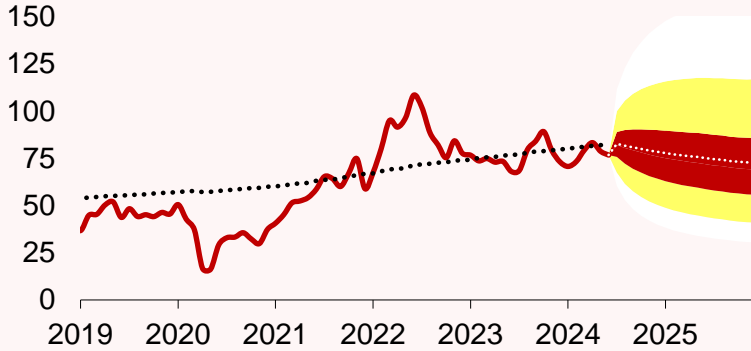


Solid labor market growth. The employment situation is a lagging indicator of GDP growth. The U.S. unemployment rate rose by 0.1% m/m to 4.0% in May per BLS, while non-farm payrolls increased by 272,000.

U.S. oil market indicators

WTI crude oil price mean reversion analysis

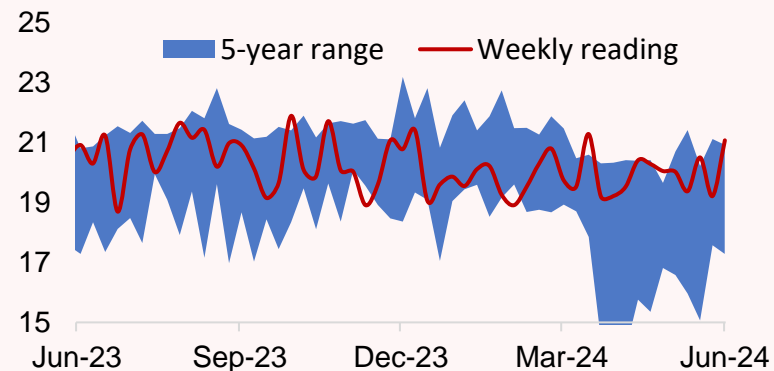
Dollars per barrel (2024\$)



Near-term futures prices currently align with the historical mean reversion target. The futures strip remained 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

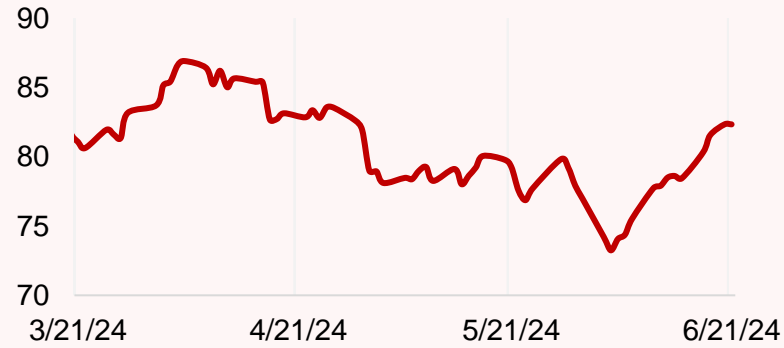
Million barrels per day (mb/d)



Petroleum demand increased. U.S. petroleum demand, as measured by deliveries, increased by 1.9 mb/d w/w to 21.1 mb/d for the week ended June 14 and above the top of the 5-year range.

WTI crude prompt month futures prices

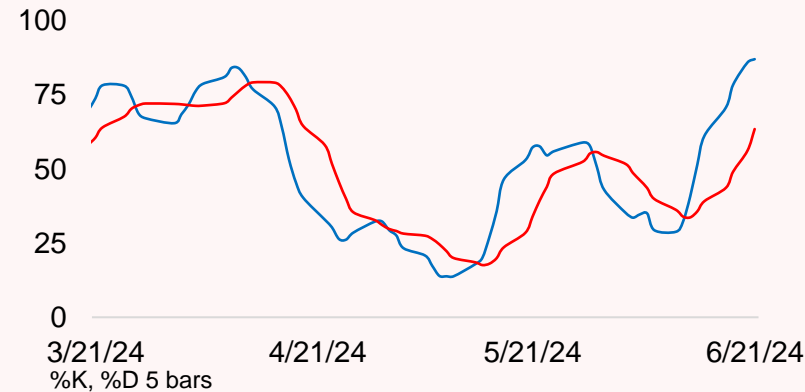
Dollars per barrel



WTI crude oil prices rose above \$80 per barrel for the week ended June 21, reflecting historically solid production and inventories despite strong demand, exports, and Middle East geopolitical uncertainties.

WTI crude prompt month futures slow stochastic

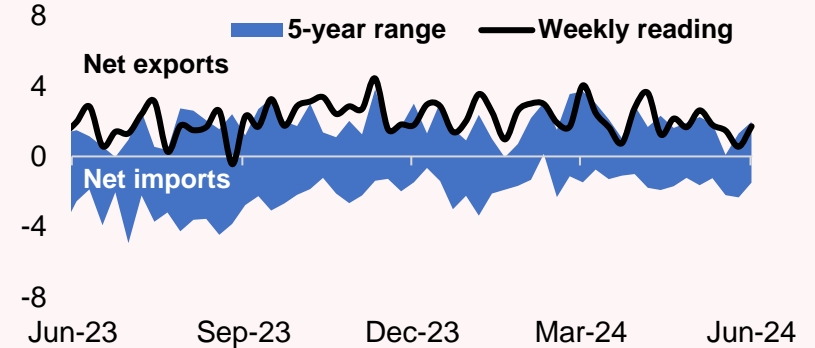
Index level



Price momentum appeared increased during the week ended June 21.

U.S. petroleum net exports (imports)

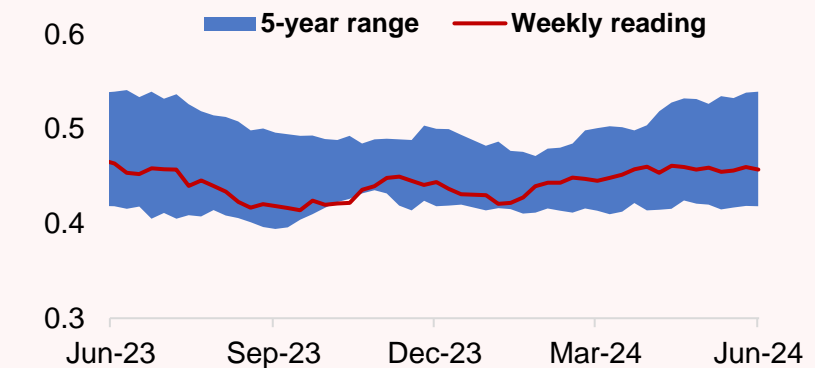
Million barrels per day, mb/d



Petroleum net exports rose. The U.S. was a petroleum net exporter of 1.7 mb/d for the week ended June 14, up by 1.2 mb/d from the prior week.

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

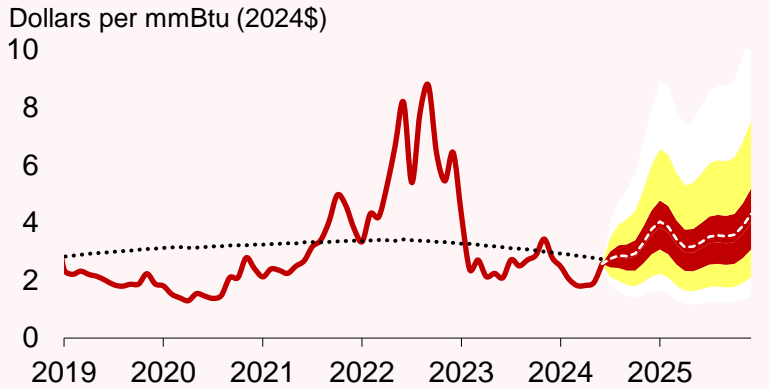
Billion barrels



Inventories decreased. U.S. ending stocks of crude oil excluding the Strategic Petroleum Reserve (SPR) decreased by 2.5 million barrels (mb) for the week ended June 14.

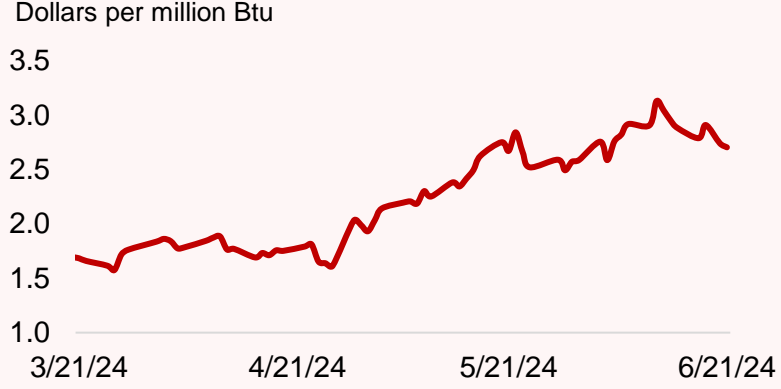
U.S. natural gas market indicators

Natural gas price mean reversion analysis



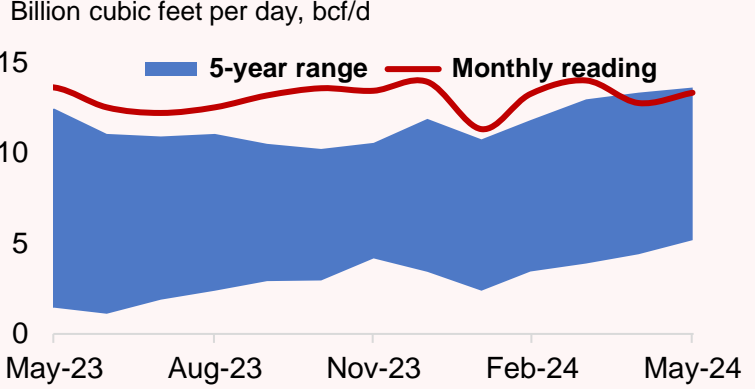
Near-term natural gas futures prices have aligned the historical mean reversion target but rise by over 30% between the July and December contracts. Confidence intervals based on past prices show the potential for greater upside than downside.

Natural gas prompt month futures prices



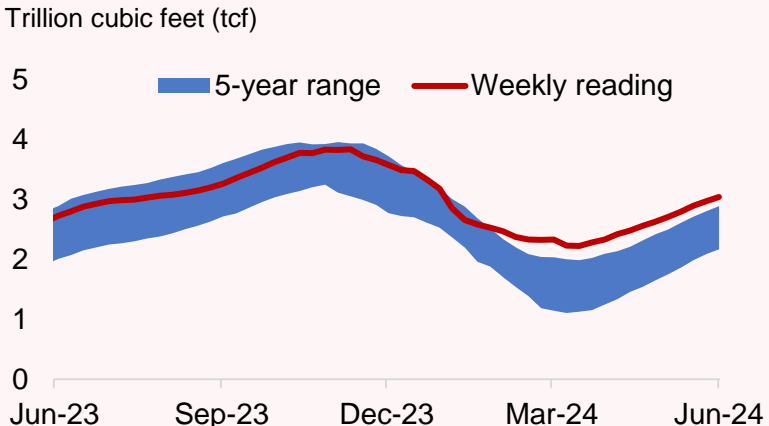
Natural gas prices at Henry Hub receded to \$2.70 per million Btu for the week ended June 21 with historically strong inventory levels.

U.S. natural gas net exports



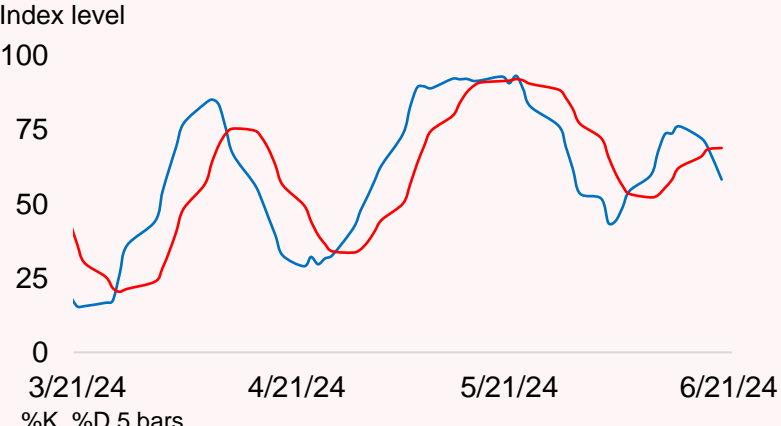
Natural gas exports rose. U.S. natural gas net exports in May of 13.3 bcf/d rose from 12.8 bcf/d in April as estimated by EIA.

U.S. weekly working gas storage



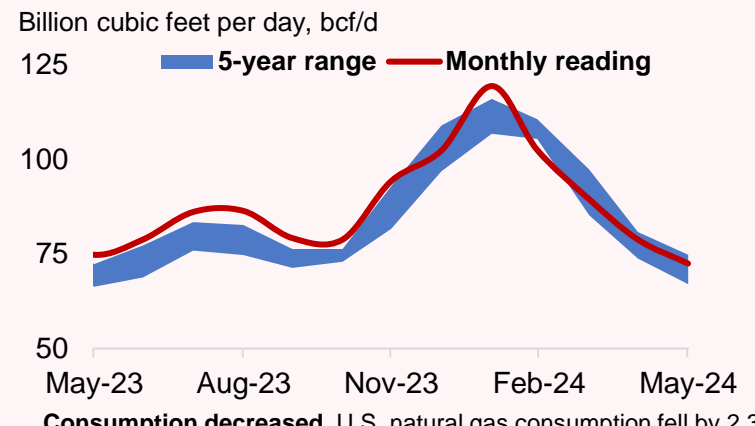
Working gas in underground storage rose by 2.6% w/w to 3.0 tcf as of June 14 and remained over 20% above the 5-year range.

Natural gas futures slow stochastic



Natural gas price momentum appeared to turn down during the week ended June 21.

U.S. natural gas consumption



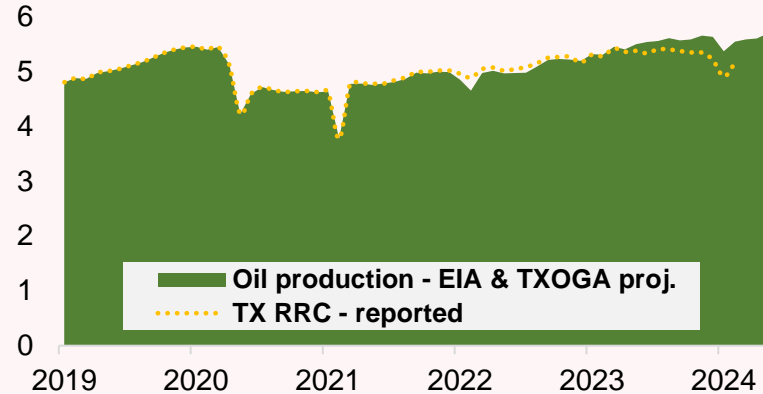
Consumption decreased. U.S. natural gas consumption fell by 2.3 bcf/d y/y to 72.4 bcf/d in May as estimated by EIA.



Texas' oil and natural gas production

Texas crude oil production, Jan. 2019 – May 2024

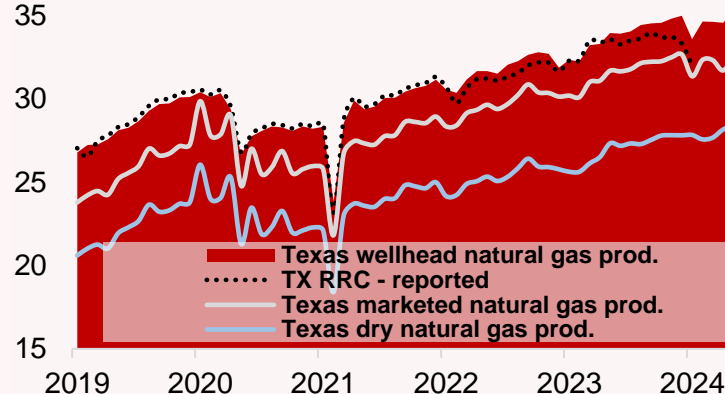
Million barrels per day (mb/d)



Oil production increased. Texas' oil production reached 5.6 mb/d in March per EIA. TXOGA estimates that Texas crude oil production rose to a record high 5.7 mb/d May.

Texas natural gas production, Jan. 2019 – May 2024

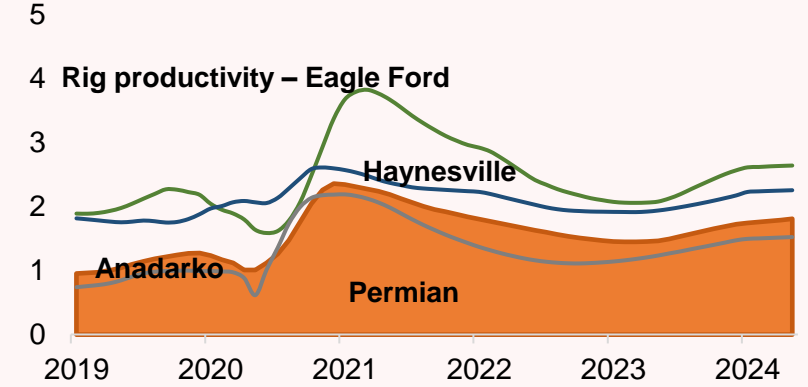
Billion cubic feet per day (bcf/d)



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 March per EIA. TXOGA estimates that Texas' marketed production rose to 32.5 bcf/d in May, with 28.2 bcf/d of dry gas production.

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

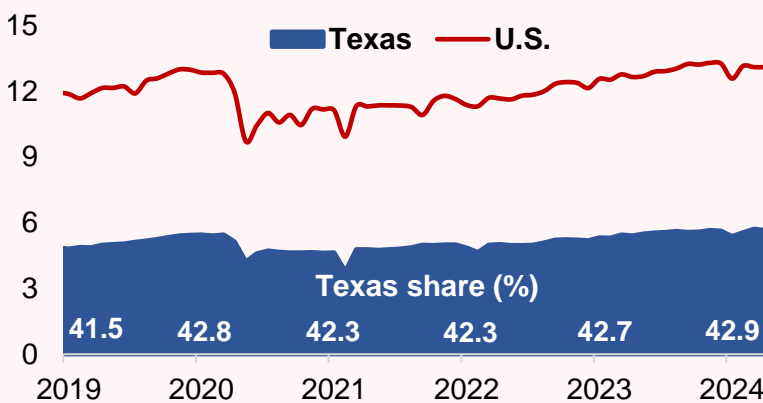
Thousand barrels per day oil-equivalent, kb/dae



Strong productivity to start the year. EIA estimates of rig productivity for May 2024 show continued increases year-over-year across the major Texas basins, including the Anadarko (+23.4% y/y), Eagle Ford (+27.1% y/y), Permian (+23.2% y/y), and Haynesville (+16.4% y/y).

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

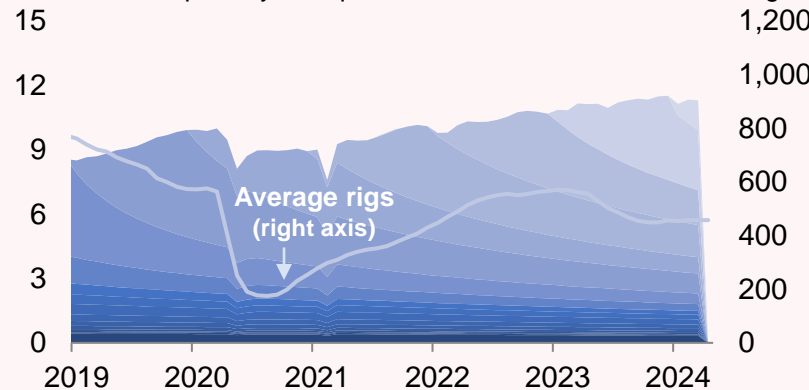
Million barrels per day (mb/d)



Texas' share increased. Texas accounted for an estimated 42.9% of U.S. crude oil production year-to-date through May by TXOGA's estimates.

Texas shale basin wellhead oil & natural gas production

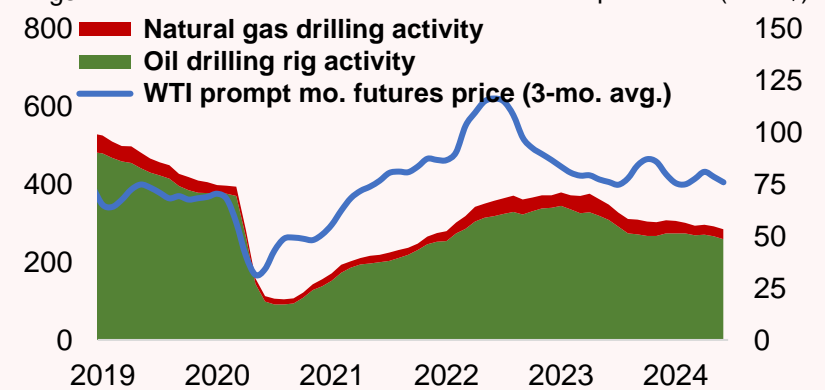
Million barrels per day oil-equivalent



EIA estimates May 2024 production growth across Texas shale basins has continued to grow year-over-year in the Permian (+7.2% y/y) but fallen in the Eagle Ford (-4.3% y/y), Haynesville (-9.4% y/y), and Anadarko (-2.9% y/y) regions.

Texas drilling activity and WTI crude oil futures prices

Rigs Dollars per barrel (2024\$)

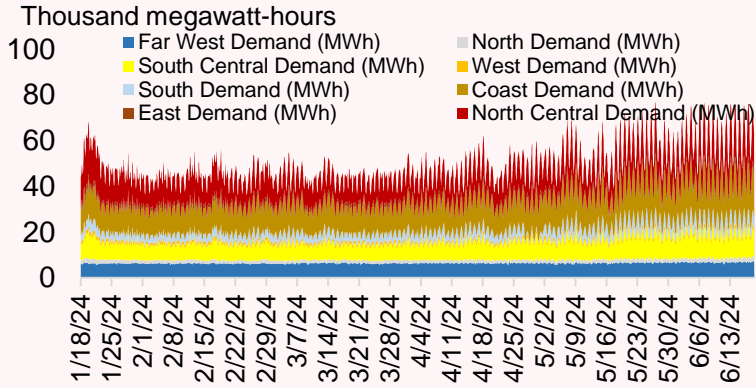


Texas' drilling rig activity decreased for the week ended June 21 per Baker Hughes. Texas had 256 oil-directed rigs (down by 2 rigs w/w) and 26 natural gas-directed rigs (down by 1 rig w/w).

Texas Electricity Analysis

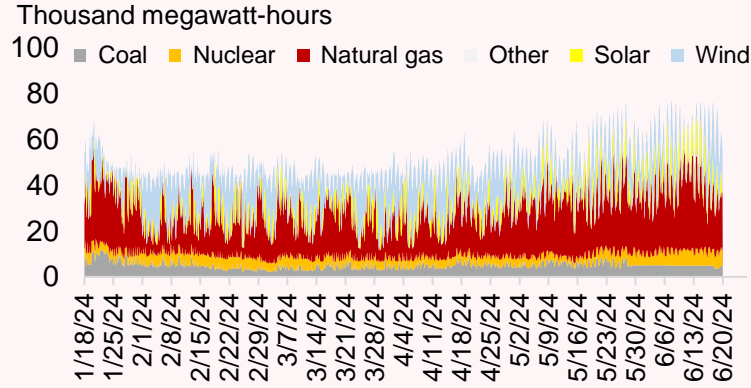


ERCOT electricity load by region



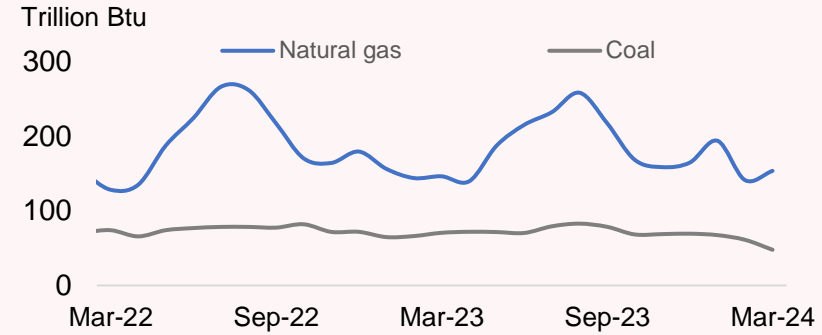
Texas' load rose. For June 12-18, ERCOT's average hourly electricity load increased by 2.9% w/w, while the maximum hourly load remained unchanged. Variability was the highest in the West and South Central regions.

ERCOT hourly electricity generation by source



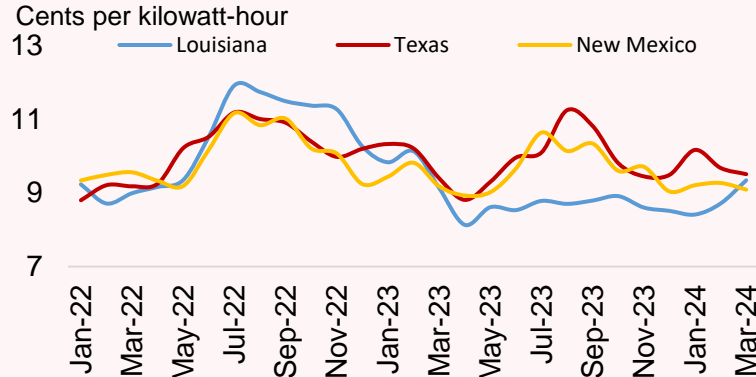
ERCOT relied on thermal generation for up to 95% of power. ERCOT's hourly electricity generation for the period June 12-18 ranged between 45 and 76 kMWh with a percentage standard deviation of 15.2 – similar vs. the prior week. Thermal and dispatchable sources generated as much as 95% of the region's power on the morning of June 12.

Electricity plant receipts of natural gas and coal



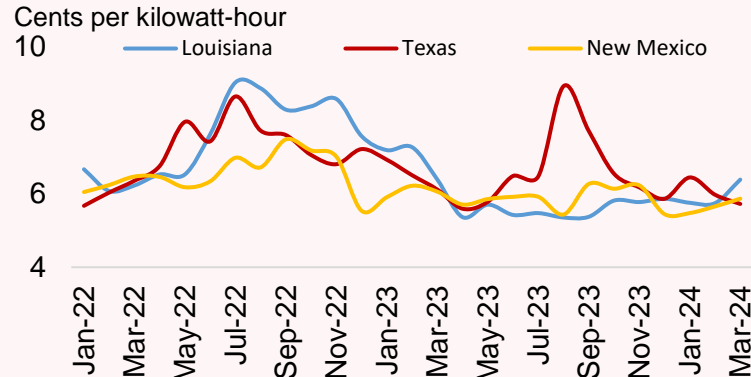
Texas' lower natural gas receipts enabled by higher inventories. Although Texas' thermal and dispatchable energy needs have continued to grow, the maximum monthly quantities of natural gas and coal that generators received have fallen over the past two years, thanks at least in part to greater inventories. 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



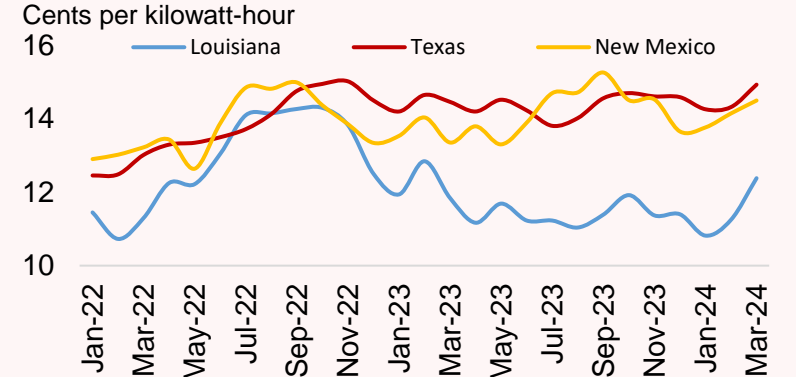
Texas' electricity prices rose in March. The average price of electricity in Texas (9.51 cents per kWh) increased by 1.2% y/y in March, while those in Louisiana and New Mexico remained lower.

Industrial electricity prices



Texas' industrial electricity prices decreased. For Texas' industrial consumers, the 5.72 cents per kWh average price of electricity decreased by 6.4% y/y in March – and returned to be below those in Louisiana and New Mexico.

Residential electricity prices



Texas' residential electricity prices increased. For Texas' residential consumers, the average price of electricity (14.92 cents per kWh) rose by 3.3% y/y in March and remained 3.0% above that in New Mexico and 20.5% above that in Louisiana.

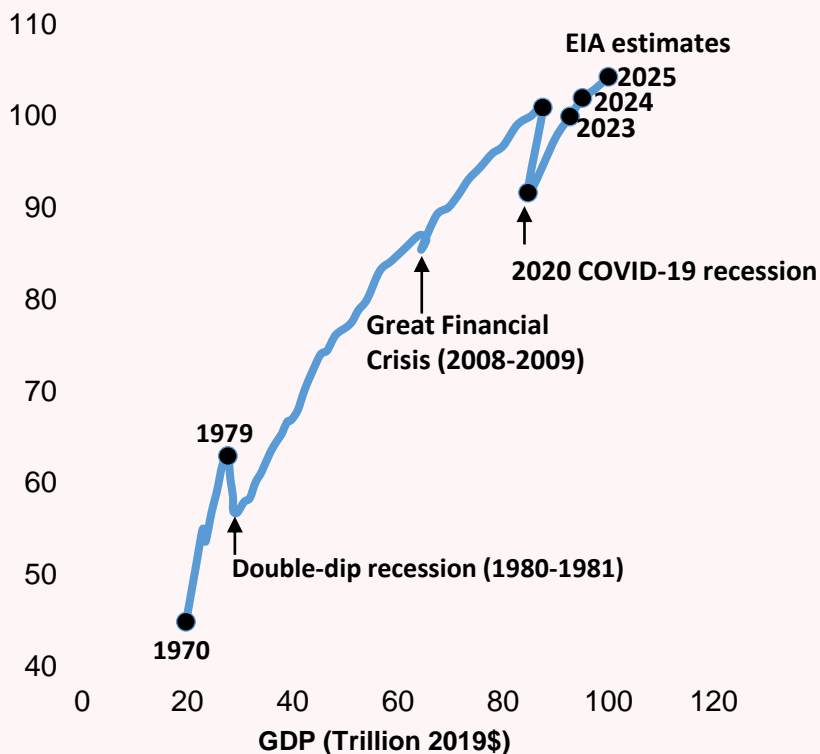
Global Oil Market Balance Projections to 2025



- Solid demand and inventory drawdowns.** EIA's June 2024 Short-Term Energy Outlook upgraded global oil demand to 103.0 mb/d in 2025 and 104.5 mb/d in 2025 – both record highs. Led by the U.S. and other non-OPEC nations, annual oil production growth could motivate a reversal in 2025, whereby OPEC+ increases output in their view.
- For oil inventories, the EIA projects global stock withdrawals to continue through Q1 2025,** corresponding with Brent crude oil prices of \$84 in 2024, compared with \$82 per barrel currently.

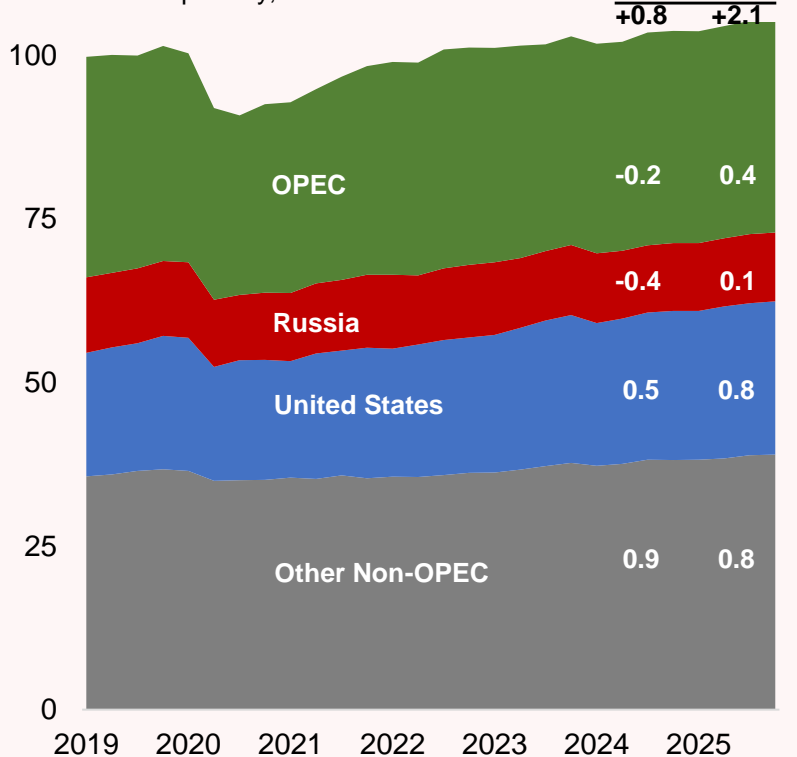
Global oil demand and GDP

Million barrels per day (mb/d)



Oil production by country/region

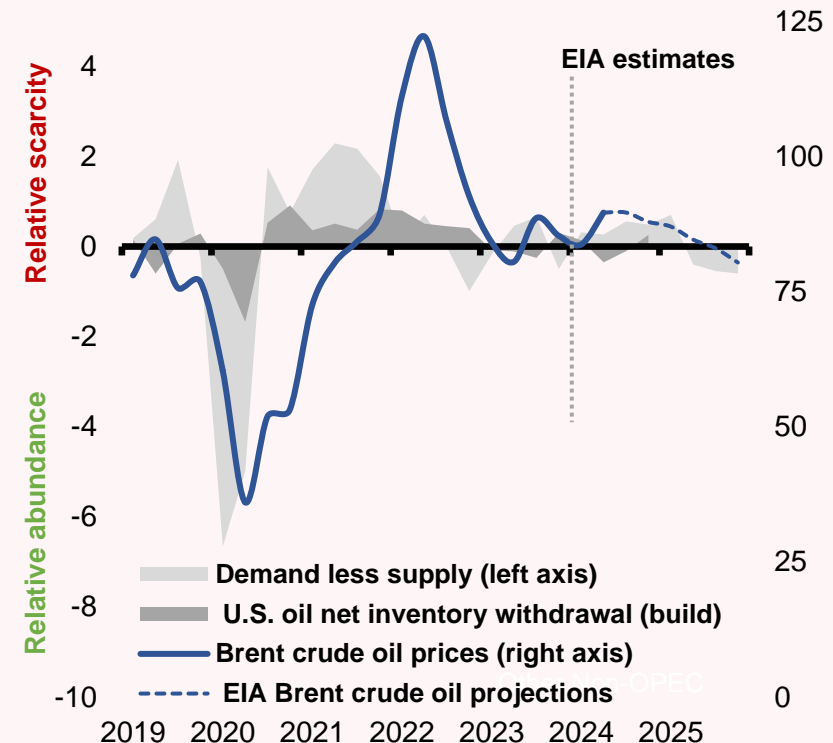
Million barrels per day, mb/d



Global demand/supply & Brent prices

Million barrels per day (mb/d)

2024\$/Bbl



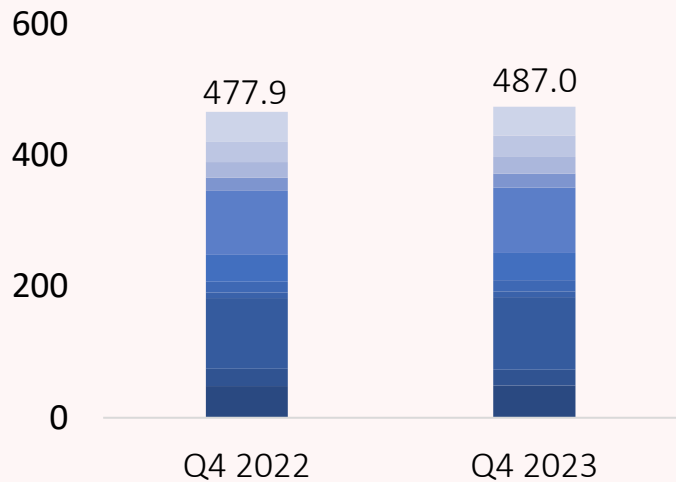
Texas' oil and natural gas industry wages reached \$14.6 billion in Q4 2023



- ▶ 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.

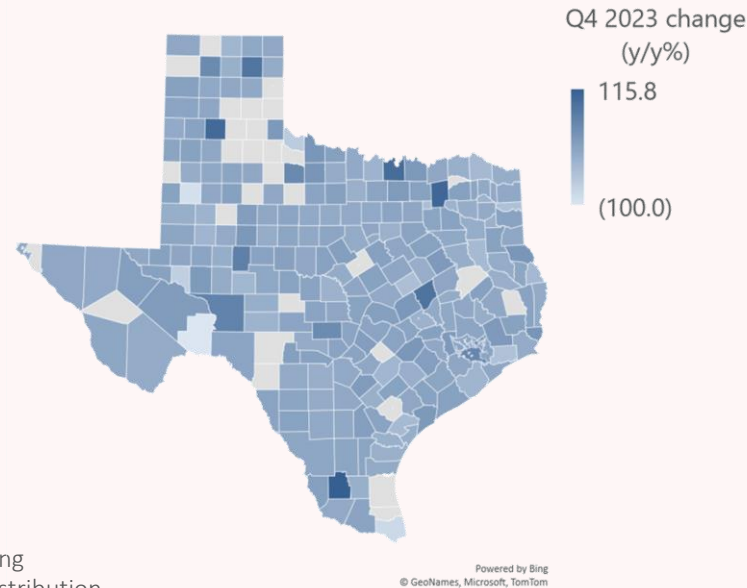
Texas oil and natural gas industry direct employment rose by +1.9% y/y in Q4 2023

Thousand Jobs



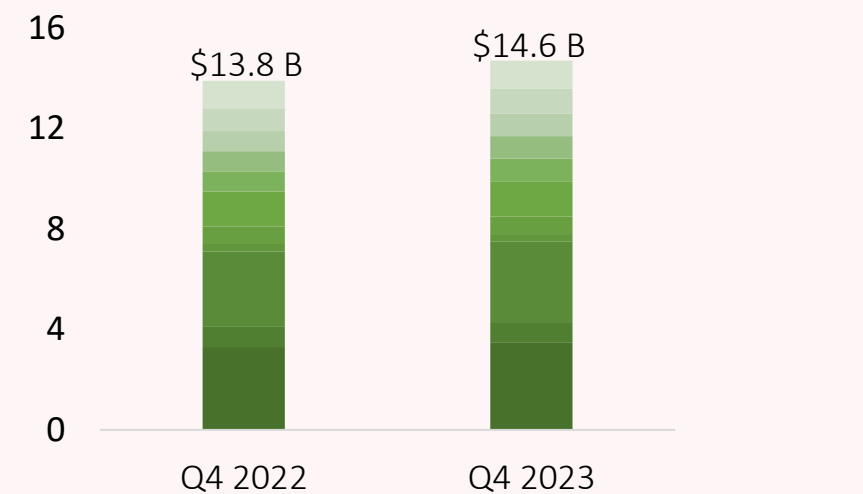
- Oil & gas extraction
- Support activities for o&g ops.
- Petroleum refineries
- Gas stations & fuel dealers
- All other*
- Pipeline construction
- Oil & gas drilling
- Natural gas distribution
- Petrochemical mfg.
- Pipeline transportation
- Oil & gas field mach. and eq. mfg.

* 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

