

**R. Dean Foreman, Ph.D.**

**Second Quarter 2025 Outlook**

**June 3, 2025**



## Global, U.S., and Texas Economies

- Economic uncertainty intensified: Global real GDP growth was downgraded by ~0.3% to 2.3% in 2025 and 2.4% in 2026, amid persistent inflation concerns, trade frictions, and increased consumer financial strain in the U.S.
- Financial tightening: Volatile markets, rising term premia, and elevated real yields have raised capital costs—tightening credit conditions and weakening the U.S. dollar
- Cost pressures mount: These dynamics have broadly raised input costs and suppressed commodity prices across the oil and gas value chain, curbing investment

## Global Oil Market

- Demand stays resilient: Global oil demand is projected to reach new record highs of 103.7 mb/d in 2025 and 104.7 mb/d in 2026 despite slower GDP growth
- Supply-led pressure: U.S. output leads global supply gains, while OPEC+ policy and geopolitical developments remain key variables
- Prices steady within norms: Futures prices remain near long-run mean-reversion thresholds

## Natural Gas Markets

- Seasonal, regional strength: Global demand is forecast to reach a record 151.4 tcf in 2025, with 1.5% growth in 2026. LNG infrastructure remains a key enabler
- Texas central to growth: U.S. production continues to set records, driven by Texas and the Permian. North America could supply ~85% of global incremental LNG in 2025
- Prices in contango: Futures prices reflect market expectations of higher prices ahead

## Global, U.S., and Texas Economies

- Heightened policy uncertainty weighs on global growth prospects
- U.S. dollar depreciation among sharpest since 2006 – Oil prices respond
- Higher real yields tighten financing conditions for energy projects
- Global trade softens but avoids crisis-era collapse
- Consumer strain intensifies: Student loan delinquencies jump post-forbearance
- Despite erosion in Q2, ADS Index suggests GDP growth remained positive

## Oil Markets

- Despite headwinds, global demand is on track for record high
- Global oil production growth — led by the U.S. and other non-OPEC producers — is projected by EIA to remain strong
- Global oil production is expected to exceed demand through 2026, putting downward pressure on oil prices
- In 2024, U.S. liquids production matched petroleum consumption for the first time—driven overwhelmingly by Texas
- Despite SPR replenishment, industry stocks remain low relative to 5-year norms
- Crude oil futures prices are aligned with their historical mean-reversion threshold

## Natural Gas Markets

- Record 2025 global gas demand projected, with 75% of growth from emerging markets
- North America continues to dominate incremental LNG supply, led by Texas and the Gulf Coast
- U.S. natural gas marketed production and net exports have continued to set record highs
- U.S. gas storage levels are robust—within the upper third of the 5-year range
- Contango signals market expectations of higher natural gas prices in future months

## Productivity, Jobs, and Wages

- Texas rig productivity rose ~7% y/y in April 2025 across major basins
- Texas oil and gas output continues to grow despite reduced rig count—highlighting efficiency gains

# Global, U.S. and Texas Economies

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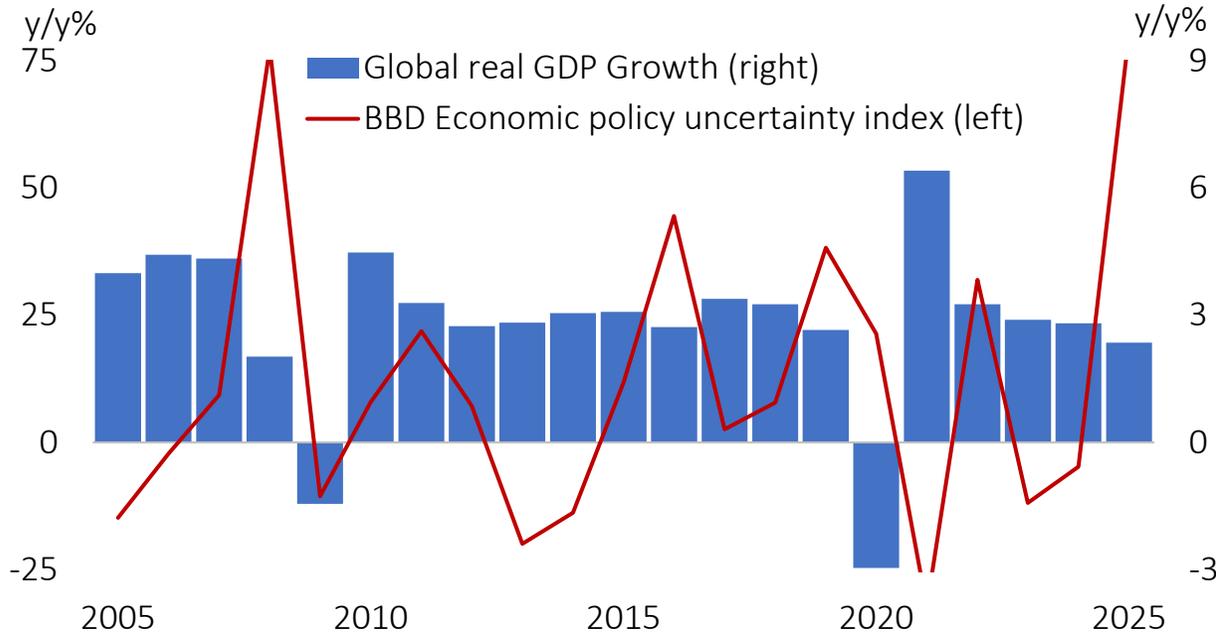


# Heightened policy uncertainty weighs on global growth prospects



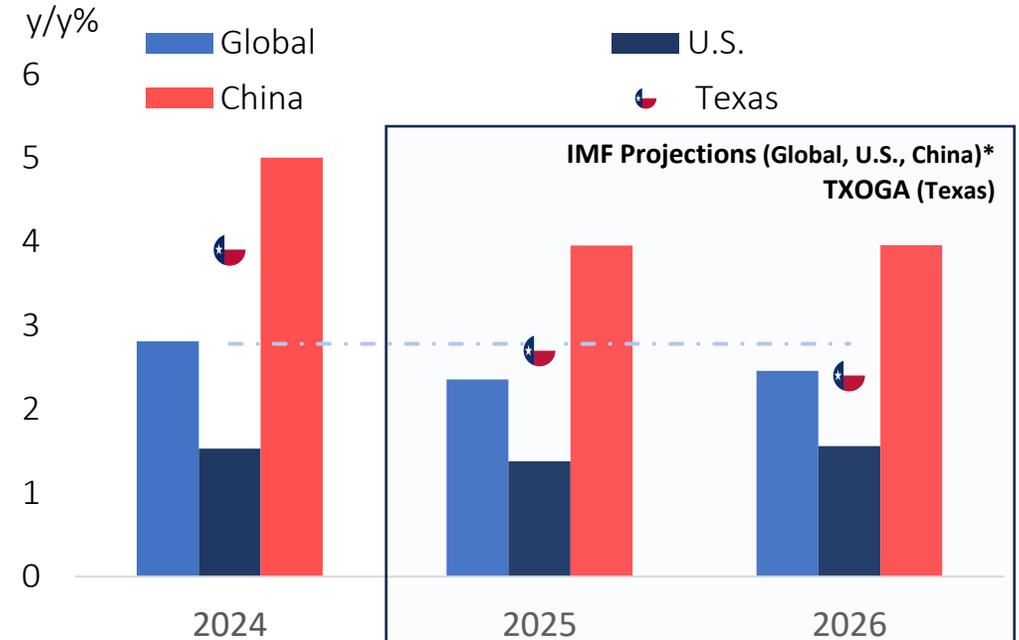
- In early 2025, economic policy uncertainty—as measured by the Baker, Bloom, and Davis (2016) [index](#) — rose more sharply than at any time since the 2008 financial crisis, indicating higher risks to global growth
- In Q2, the IMF projected global real GDP growth of 2.3% in 2025 and 2.4% in 2026. Growth remains uneven: 4.0% in China, 1.8% in the U.S., and just 0.6% in Japan. While a global recession is not the base case, a downturn could shave 0.5–1.0 percentage points from annual growth
- Geopolitical risks—including maritime disruptions in the Red Sea, ongoing Russia-related sanctions, and trade policy volatility with China — add complexity to the outlook for economics and energy markets

## Higher uncertainty portends lower growth: Economic policy uncertainty index vs. global real GDP growth



sources: FRED (Baker Bloom, and Davis); International Monetary Fund; TXOGA analysis

## Real GDP growth outlook\*

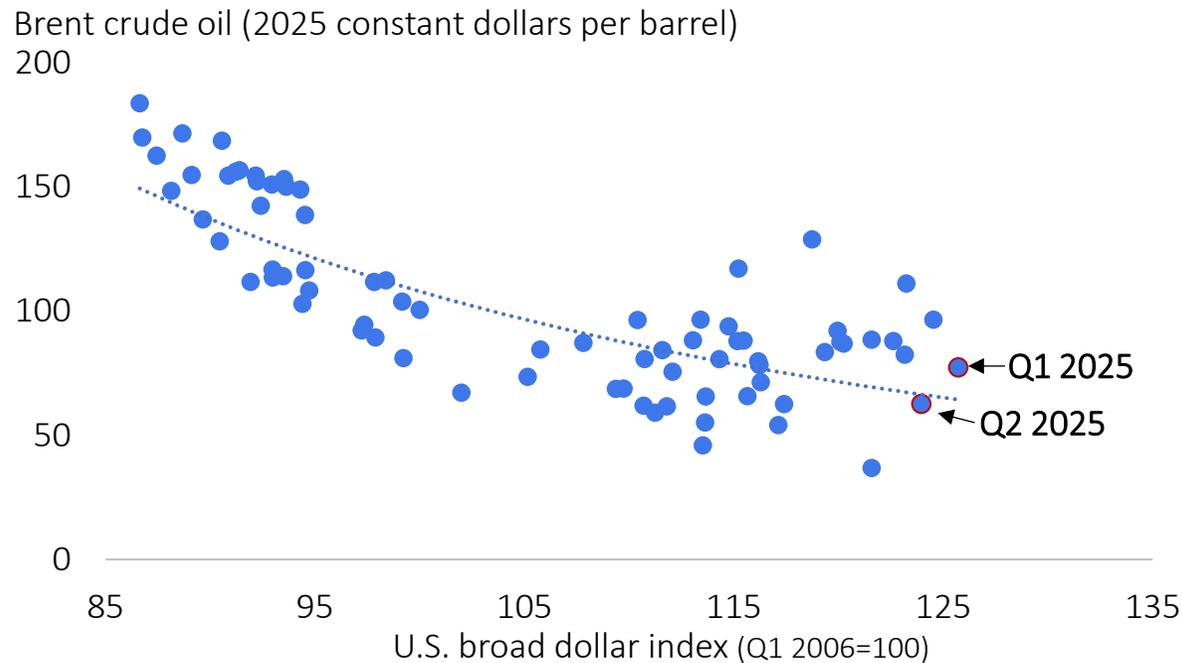


\* Based on real GDP (2019 constant dollars) for 205 countries weighted on a market exchange rate basis  
sources: International Monetary Fund; World Bank; TXOGA analysis

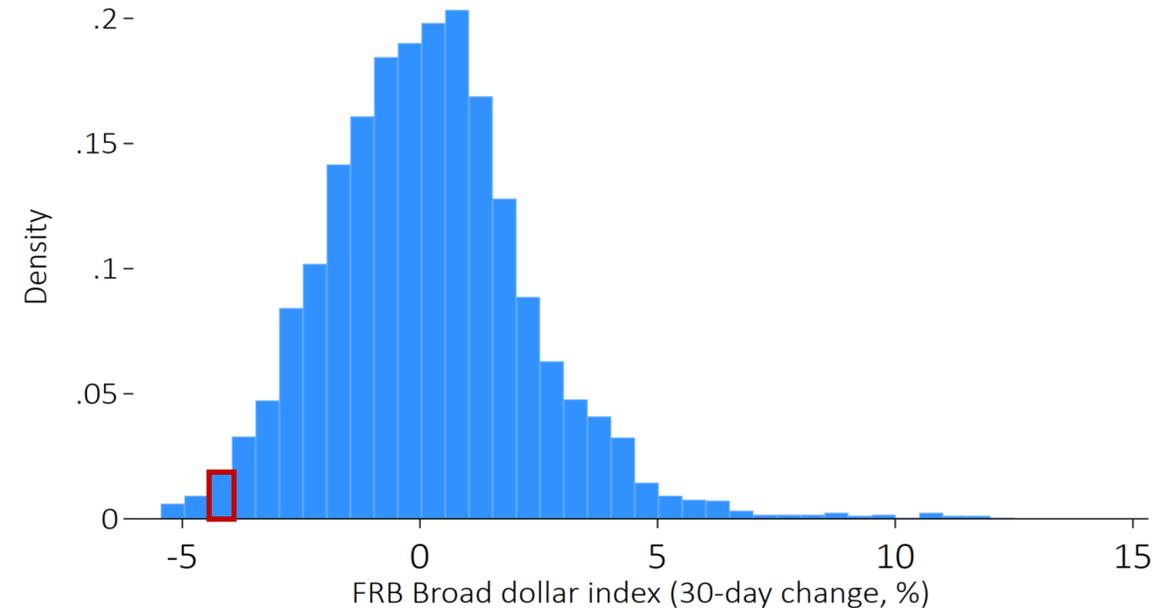
# U.S. dollar depreciation among sharpest since 2006 – Oil prices respond

- ▶ While many factors influence global oil prices, the U.S. dollar’s strength has historically shown an inverse relationship with oil prices, given its central role in oil pricing, global commodity trading, trade balances, and monetary policy transmission
- ▶ A weaker dollar typically supports higher oil prices by reducing the cost of crude for foreign buyers and boosting demand—an established non-linear relationship that strengthened in Q2 2025
- ▶ As of May 18, the U.S. dollar depreciated by **4.0%** over the previous seven weeks. This places it in the bottom 2% of 50-day dollar moves since 2006

U.S. broad dollar index and Brent crude oil prices, Q1 2006-April 2025



Distribution of U.S. broad dollar index changes over 50 days, 2006-2025

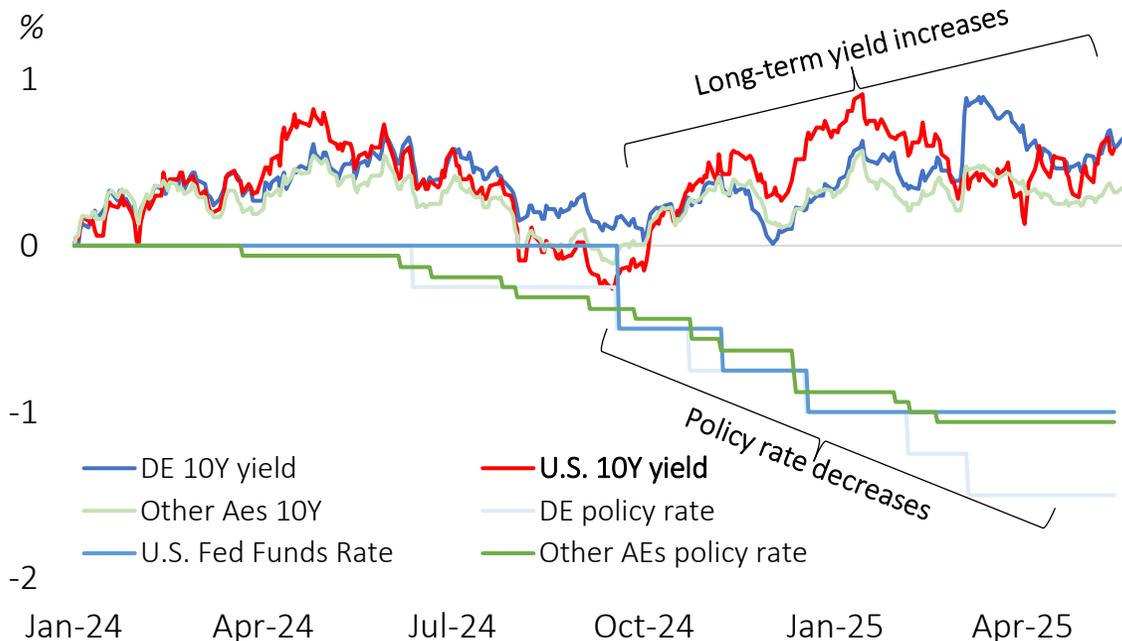




- ▶ Long-term bond yields have risen globally, driven higher by real yields and term premia—despite global monetary easing
- ▶ U.S. 10-year Treasury yields rebounded in 2025, while the risk premium for low-rated corporate debt (CCC and below) remains more than 100 basis points above late 2024
- ▶ Notably, stable inflation breakevens indicate real yields—not inflation expectations—are driving up financing costs
- ▶ Elevated real yields raise capital costs for long-term energy projects, which could delay timelines and complicate investment decisions
- ▶ Preliminary 2025 capital spending guidance from key operators showed restrained investment despite strong output, which reflects caution amid volatile financing conditions

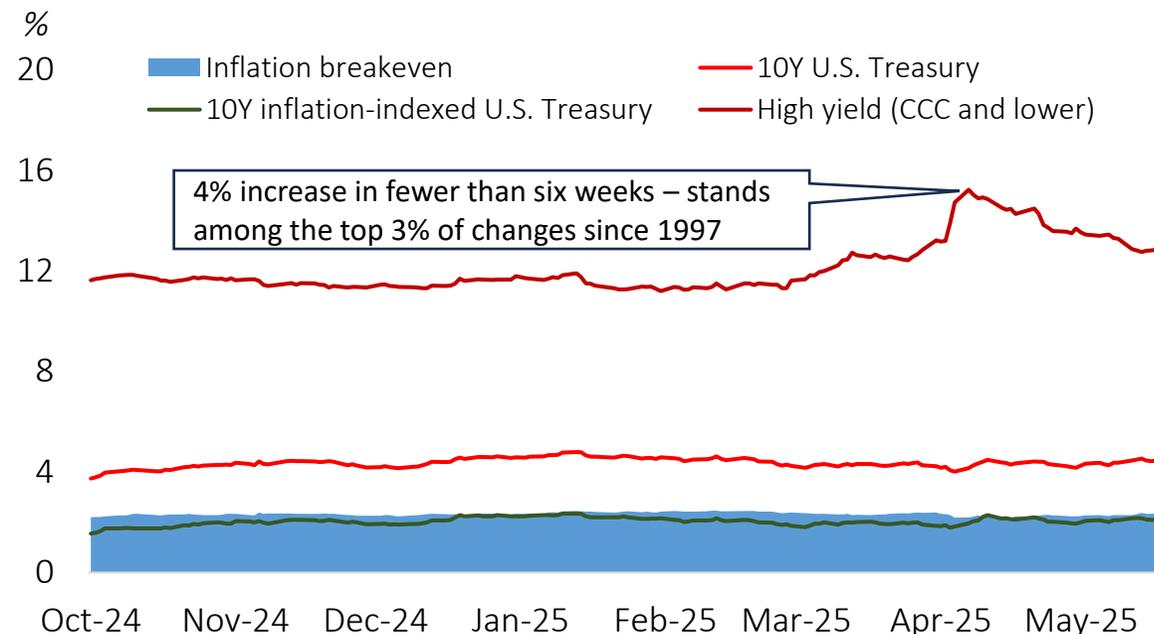
## Policy easing has not lowered long-term borrowing costs

Changes in long-term yields since January 1, 2024, for the U.S., Germany (DE), and Advanced Economies (AE)



## Real yields and credit risk premia drive up energy financing costs

U.S. long-term treasury security yields



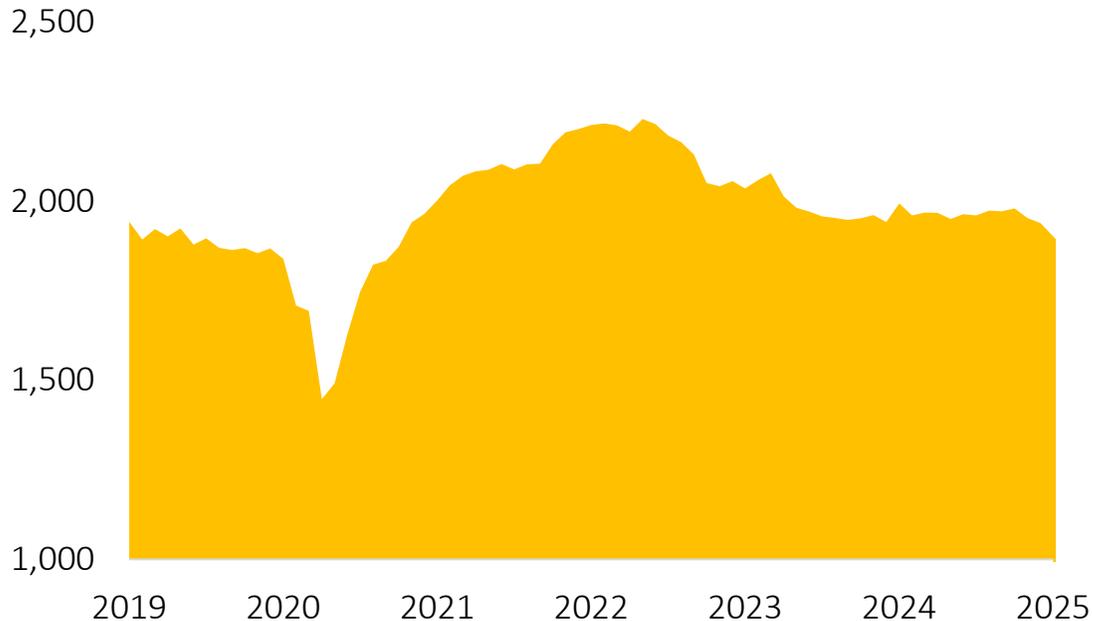


# Global trade softens but avoids crisis-era collapse

- Global goods trade fell ~5% y/y through early 2025, but remains consistent with pre-pandemic levels, avoiding the steep declines seen in 2020 or 2009
- DHL and IMF projections suggest long-term trade growth will shift toward emerging economies in Asia, Africa, and Latin America
- Rather than deglobalization, trends reflect an adaptive rebalancing of trade flows

## Global goods exports

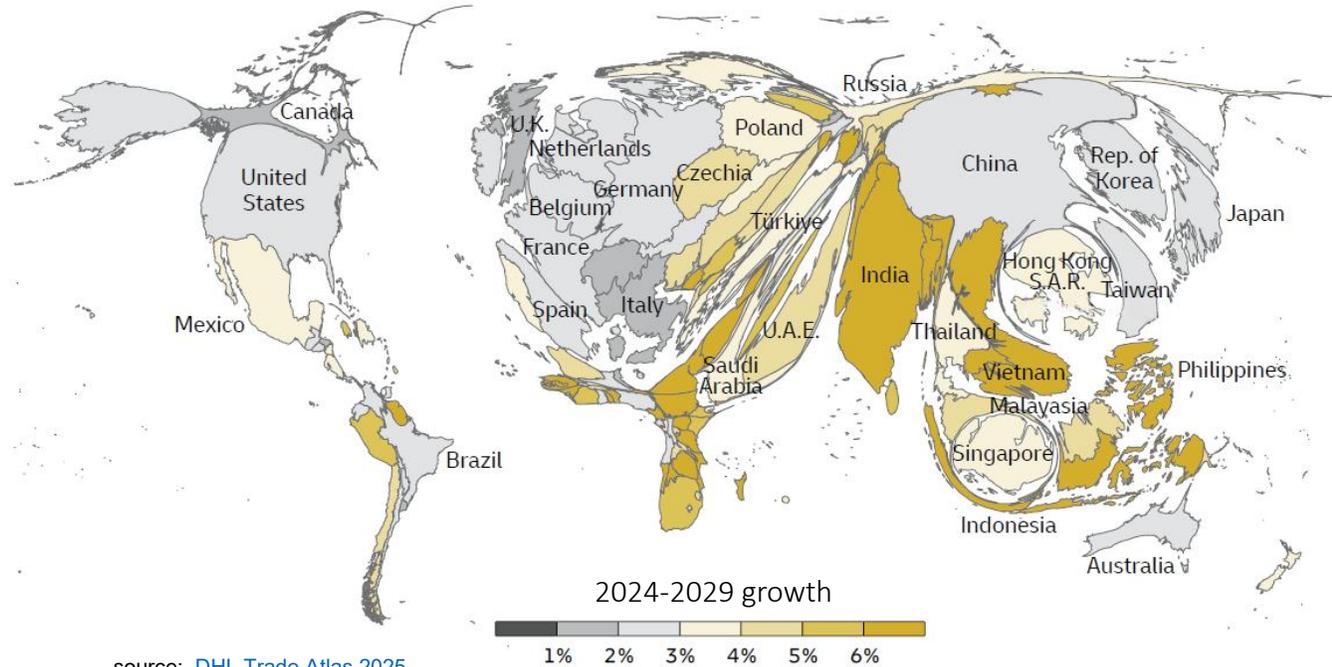
Billions of dollars (2025\$)



sources: International Monetary Fund (2025); Bureau of Labor Statistics; TXOGA analysis

## DHL forecast of global grade volume growth, 2024-2029

Billions of dollars



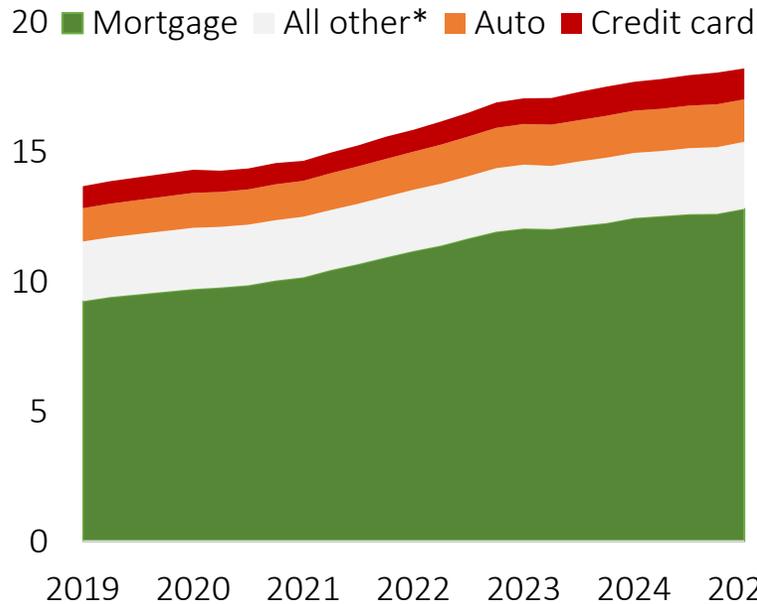
source: [DHL Trade Atlas 2025](#)

# Consumer strain intensifies: Student loan delinquencies jump post-forbearance



- U.S. household debt rose to a record \$18.2 trillion in Q1 2025, according to the New York Federal Reserve
- Serious delinquencies (90+ days past due) on student loans surged following the reinstatement of federal repayment requirements, while delinquency rates on credit cards, home equity lines of credit (HELOCs), and other forms of debt also remained elevated
- The rise in delinquencies could tighten access to credit and weigh on consumer spending—which comprises roughly 70% of U.S. GDP—and pose a potential headwind to economic growth

U.S. consumer debt

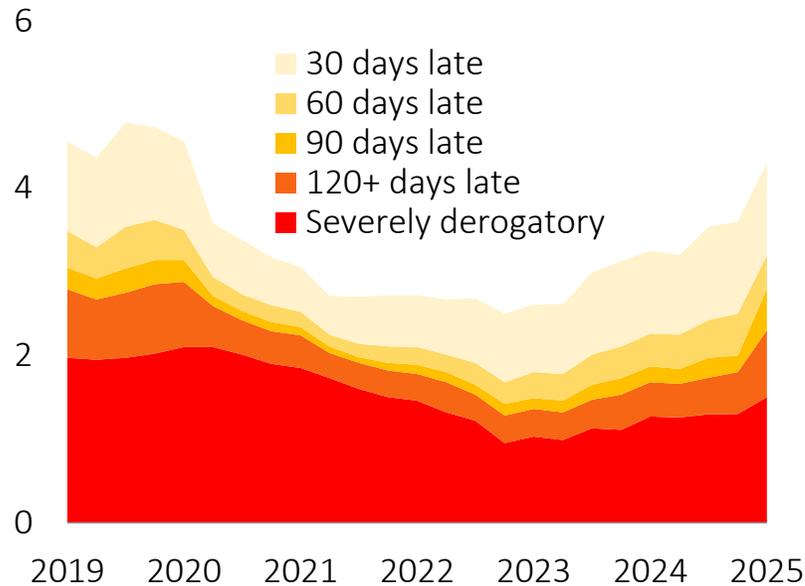


\*All other debt includes student loans, home equity revolving, and other

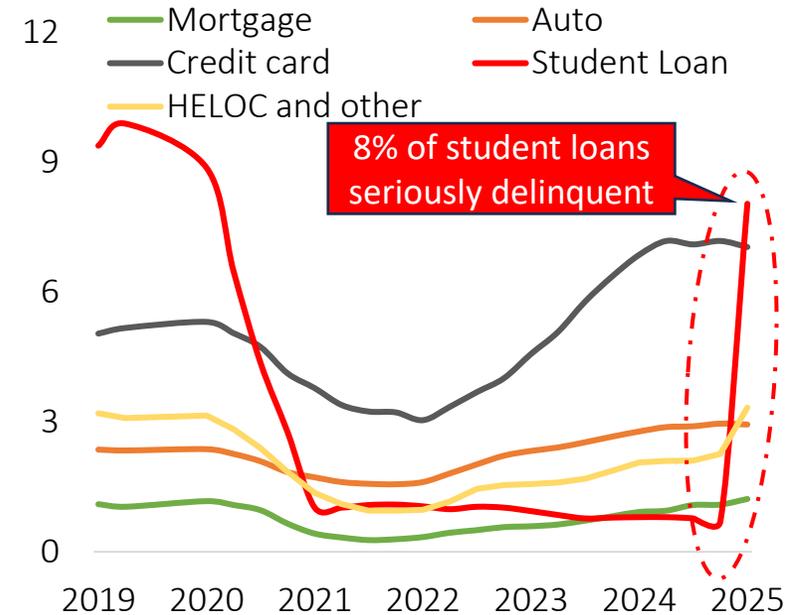
\*\*90 days or more delinquent

Total balance by delinquency status

Percent of balance



New seriously delinquent balances by type\*\*



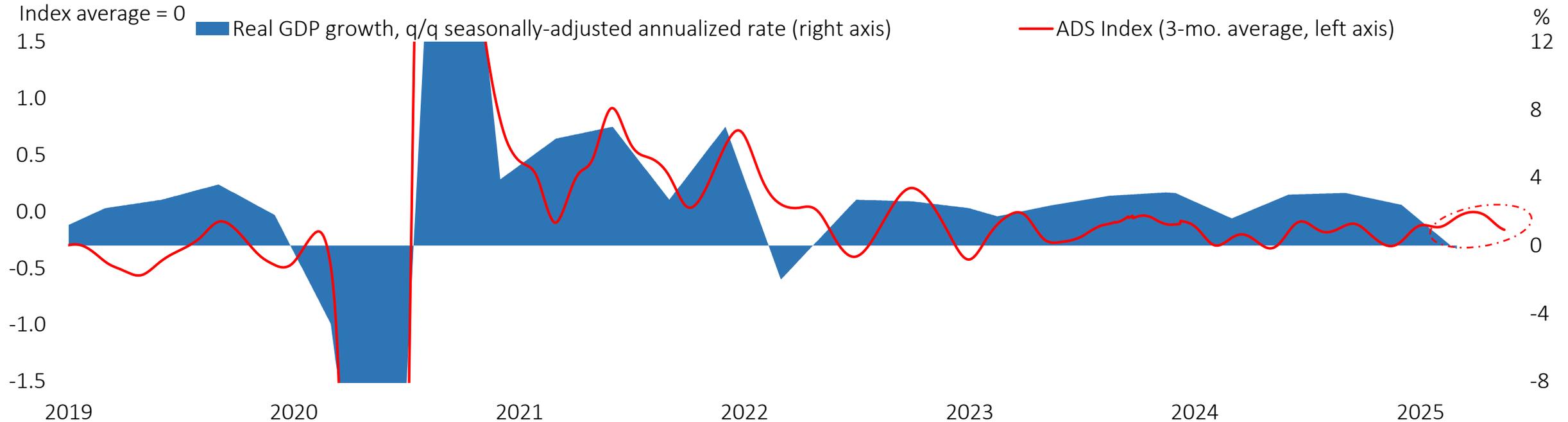
8% of student loans seriously delinquent

# Despite erosion in Q2, ADS Index suggests GDP growth remained positive



- ▶ The ADS index, published by the Philadelphia Federal Reserve, provides timely insights into current and near-term economic conditions, helping businesses and policymakers anticipate shifts in growth and adjust strategies accordingly
- ▶ Its 3-month rolling average has reliably led historical GDP growth trends – and suggests GDP growth has remained positive
- ▶ Q2 GDP advance estimate is due late July, with Q2 tracking still highly uncertain

## Aruoba-Diebold-Scotti business conditions index and U.S. real GDP growth



\* The ADS Index includes weekly initial unemployment claims (source: DOL); monthly payroll employment (BLS); monthly industrial production (FRB); monthly real personal income less transfer payments (BEA); monthly real manufacturing and trade sales (BEA, CB); quarterly real GDP (BEA)





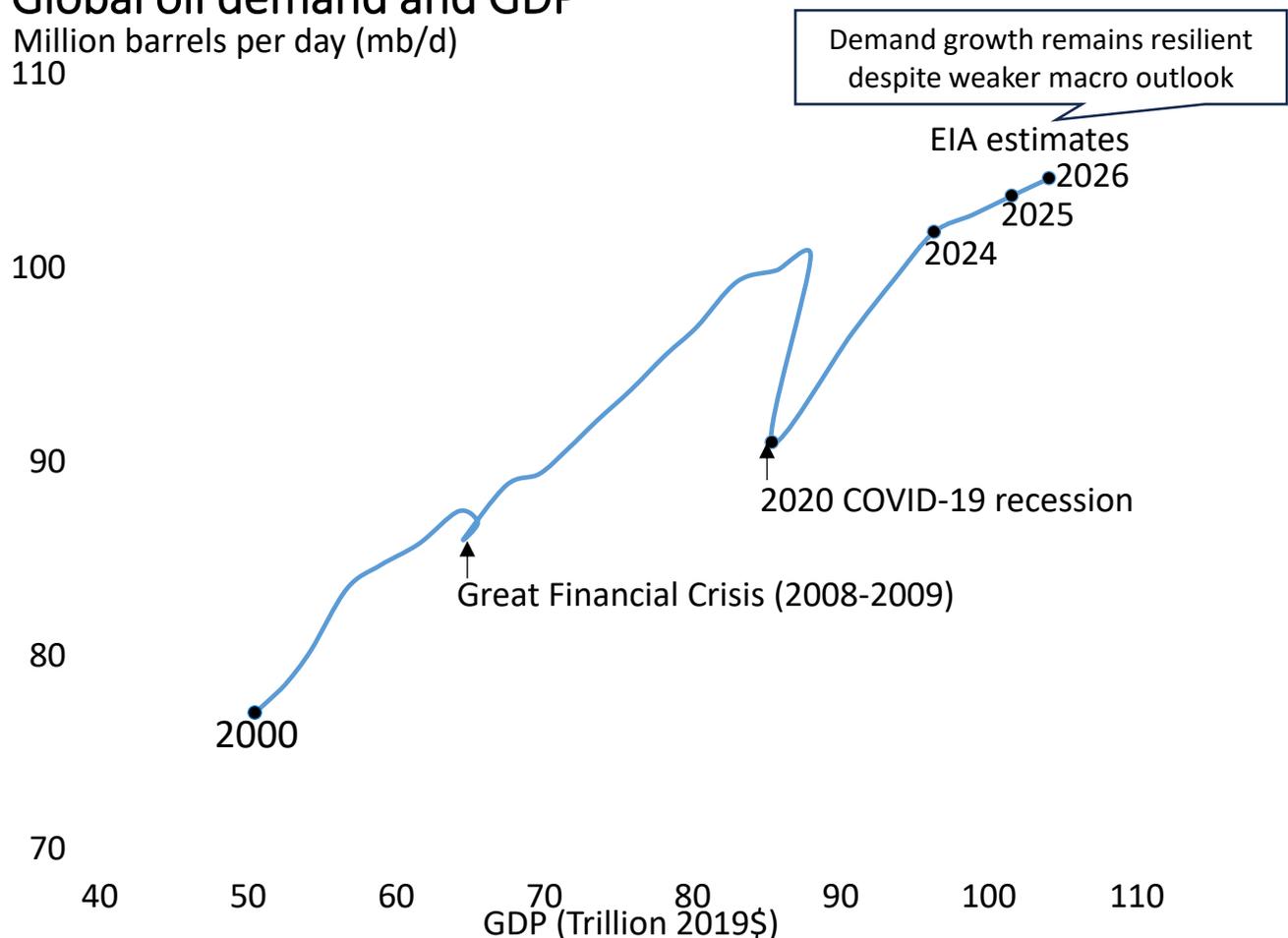
# Despite headwinds, global demand is on track for record highs



- EIA forecasts global oil demand to reach 103.7 million barrels per day (mb/d) in 2025 and 104.7 mb/d in 2026, with annual gains of +1.0 mb/d each year—even as GDP growth slows
- Refined product demand—especially jet fuel and diesel—remains solid, and U.S. Gulf Coast crack spreads stabilized but remain sensitive to export dynamics and global refining capacity shifts

## Global oil demand and GDP

Million barrels per day (mb/d)  
110



sources: U.S. Energy Information Administration (May 2025); TXOGA analysis

## Global oil demand headlines

**Oil News: Crude Futures Drop as U.S. Downgrade and China Data Hit Demand**

fxempire, May 19, 2025

**OPEC Remains Optimistic About Oil Demand Despite Economic Risks**

OilPrice.com, May 20, 2025

**IEA predicts slower oil demand growth for the rest of 2025, met with jump in supply**

msn, May 15, 2025

**Petchem to drive China oil demand growth into 2030: OIES**

Quantum Commodity Intelligence, May 7, 2025

**Airlines to Shippers Paint Picture of Fast-Souring Oil Demand**

Bloomberg.com, April 30, 2025

# Global oil production growth — led by the U.S. and other non-OPEC producers — is projected by EIA to remain strong



- U.S. and non-OPEC nations are expected to drive most of the 1.4 mb/d global supply growth in 2025, while OPEC+ compliance is assumed partial

## Global oil supply headlines

OPEC+ Agrees Another Supply Surge in June to Deepen Oil Rout

Bloomberg, May 3, 2025

High-speed Guyana: An energy superpower practically overnight

Hunter Ferris, ExxonMobil, May 16, 2025

Russian Oil Flows Are Becoming Increasingly Obscured

Bloomberg, May 20, 2025

Record Oil Output Positions Argentina as a Key Energy Player

OilPrice.com, May 22, 2025

Nervy Oil Market Jolted by Report of Potential Iran Strike

Bloomberg, May 21, 2025

## Oil production by country/region

Million barrels per day, mb/d

125

100

75

50

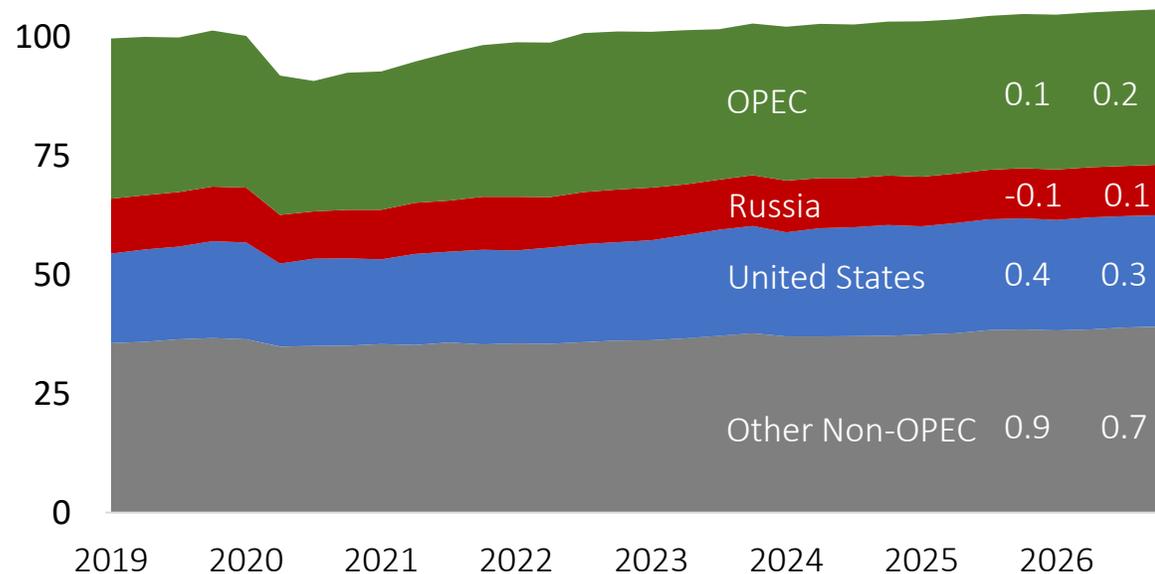
25

0

EIA est. changes, mb/d

2025 2026

+1.4 +1.3

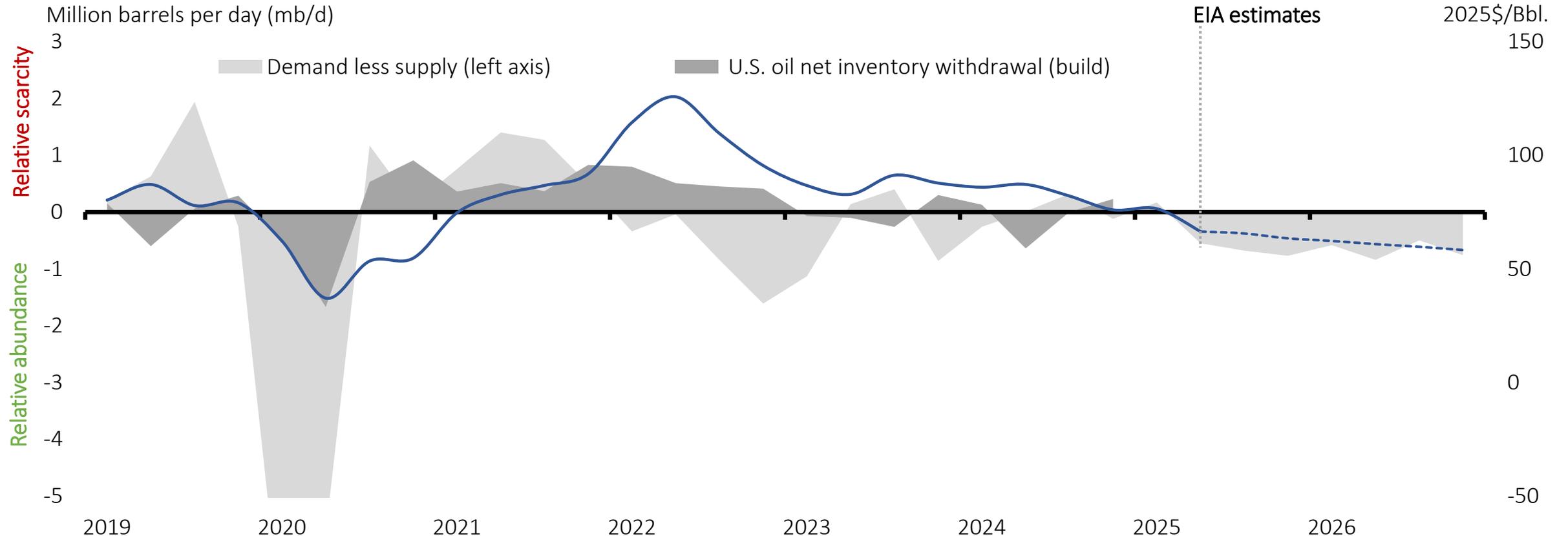


sources: U.S. Energy Information Administration (Apr. 2025); TXOGA analysis

# Global oil production is expected to exceed demand through 2026, putting downward pressure on oil prices

- From Q2 2025 going forward, EIA projects continual global oil net stock accumulation. corresponding with Brent crude prices expected to average \$68/bbl in 2025 amid stock builds

## Global demand/supply & Brent prices



sources: U.S. Energy Information Administration (Apr. 2025); TXOGA analysis

# In 2024, U.S. liquids production matched petroleum consumption for the first time—driven overwhelmingly by Texas

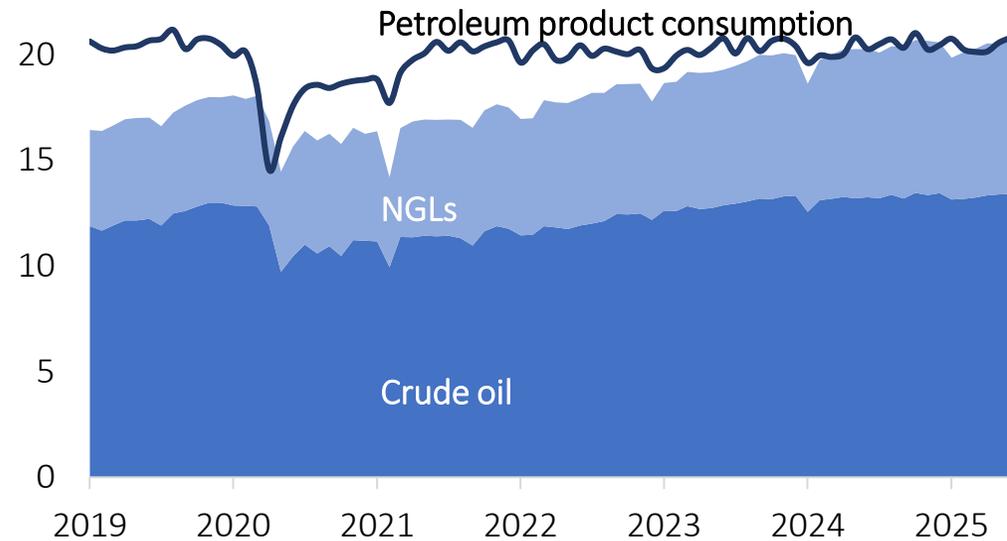


## Texas leads the way

- ▶ Historic first: In 2024, U.S. crude oil + NGL output matched petroleum product consumption for the first time on record
- ▶ Texas-driven growth: Texas contributed half of U.S. crude growth and over 63% of NGLs since 2019 — enabling the national balance
- ▶ Beyond net trade: This is about total domestic production meeting total use—not just import/export balances
- ▶ NGLs matter: NGL output growth, centered in Texas, was key to closing the gap, strengthening U.S. and Texas energy security amid global uncertainties

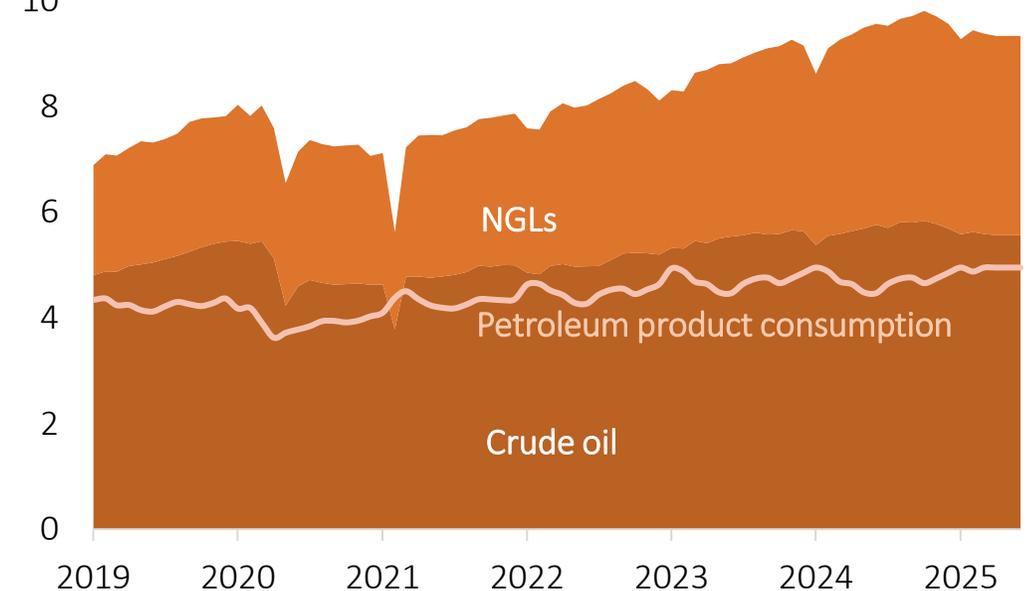
## U.S. liquids production and petroleum consumption

Million barrels per day, mb/d  
25



## Texas liquids production and petroleum consumption

Million barrels per day, mb/d  
10





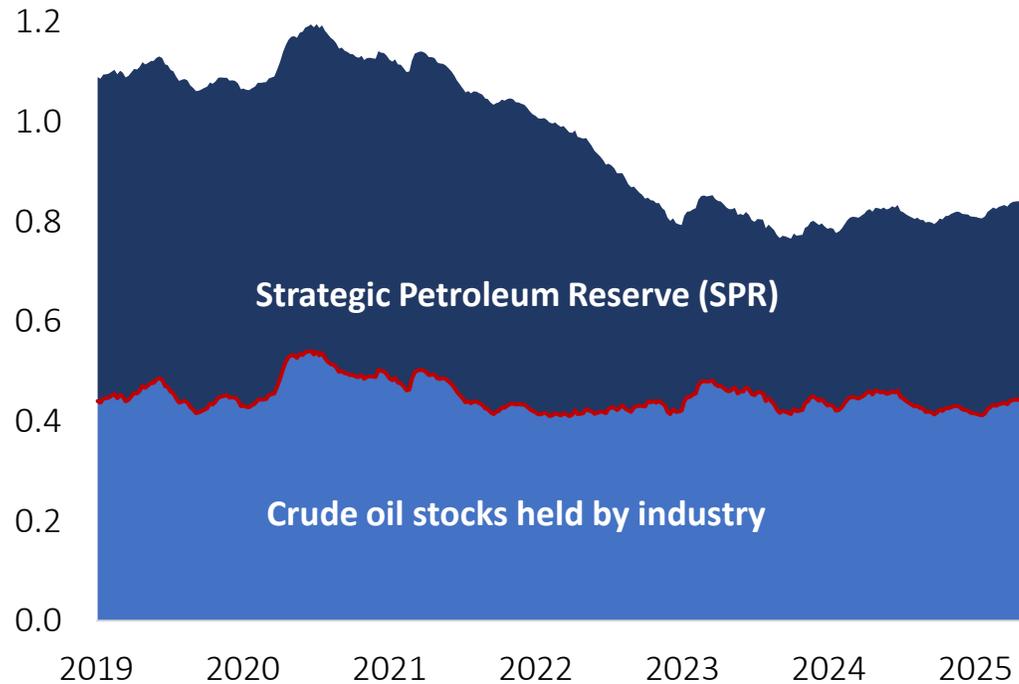
# Despite SPR replenishment, industry stocks remain low relative to 5-year norms



- Strategic Petroleum Reserves increased by 31.7 million barrels (8.6%) year-over-year as of May 16, 2025
- Crude oil stocks held by industry are at the 22<sup>nd</sup> (lowest) percentile within the five-year range, but added over 27 million barrels year-to-date

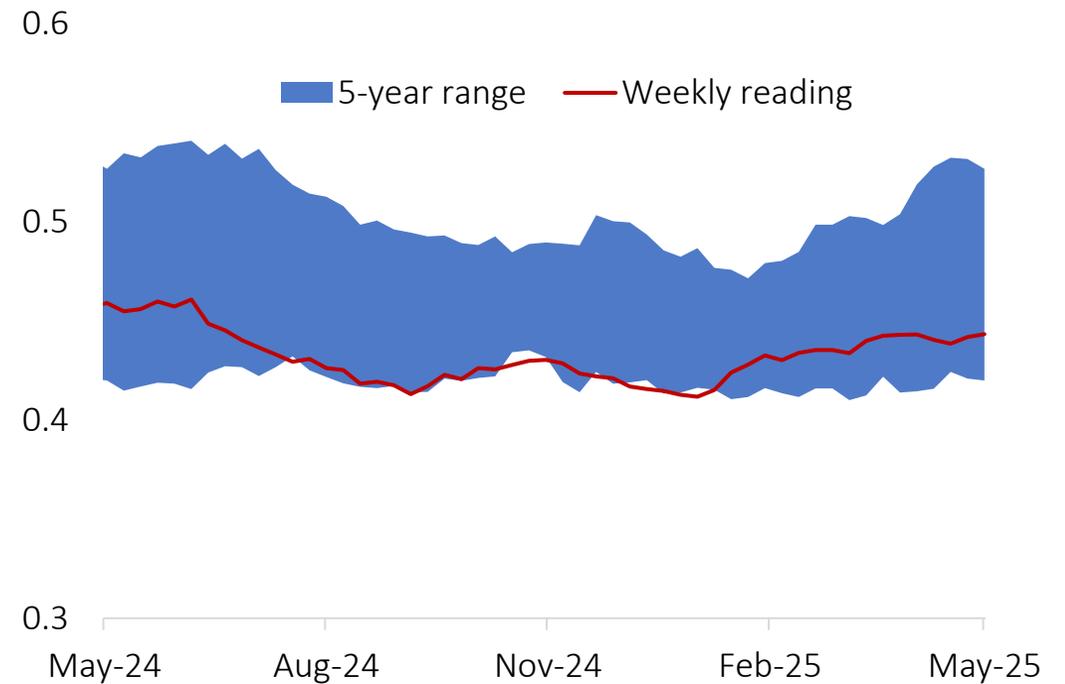
## U.S. crude oil stocks

Billion barrels



## U.S. crude oil stocks held by industry

Billion barrels

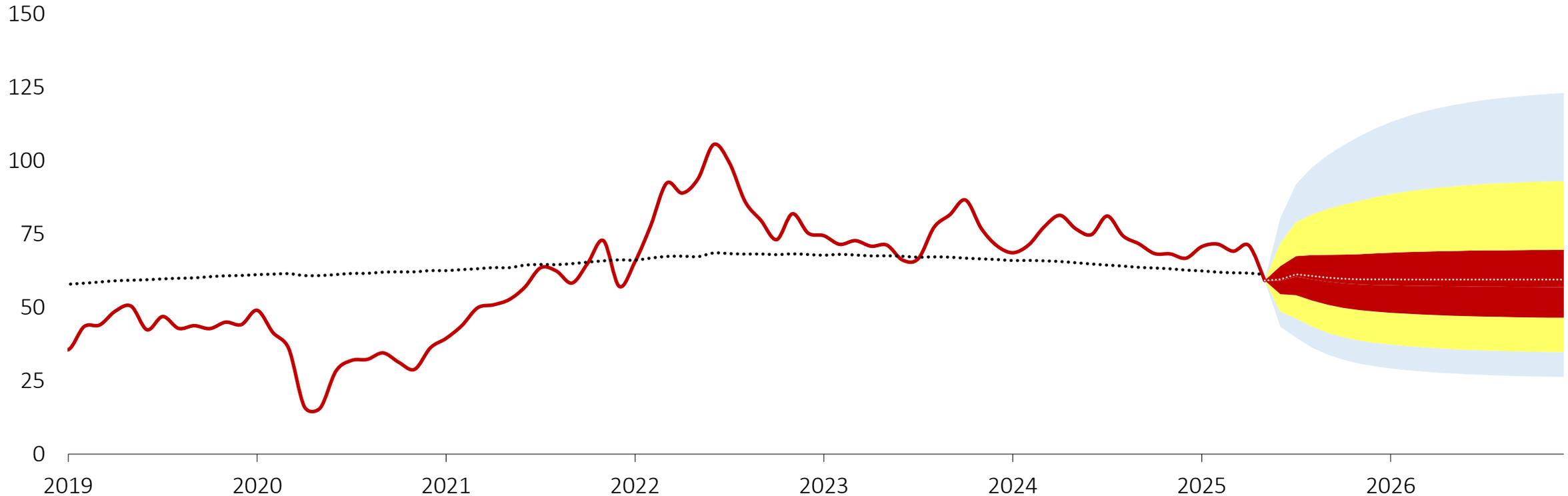


# Crude oil futures prices are aligned with their historical mean-reversion threshold

- ▶ Futures curve remains in backwardation, with prices near historical mean reversion levels
- ▶ Confidence intervals based on past prices show the potential for greater upside than downside

## WTI crude oil price mean reversion analysis

Dollars per barrel (2025\$)





# Record 2025 global gas demand projected, with 75% of growth from emerging markets



- ▶ Global natural gas demand hit a record 148.7 trillion cubic feet in 2024 and is projected to increase by 1.8% in 2025 and 1.5% in 2026
- ▶ About 75% of global natural gas demand growth stems from Emerging Markets and Developing Economies, so the continued expansion of liquefied natural gas (LNG) infrastructure is a key – and remains subject to trade policy developments

## Global natural gas demand and GDP\*

Trillion cubic feet (tcf)

175

150

125

100

75

40

2000

2020 COVID-19 recession →

EIA/IEA estimates

2024  
2025  
2026

Real GDP (Trillion 2019\$)

\*Market exchange rate basis sources: EIA; IEA; IMF; TXOGA analysis

## Global natural gas headlines

WGC Rising gas output, pipeline supplies slow

China's LNG demand

Reuters, May 23, 2025

LNG trade grew 2.4% in 2024, despite sharp decline in European imports

Oil & Gas Journal, May 22, 2025

Liquefied Natural Gas Export Authorizations Closer After DOE Releases Final Response to Comments on 2024 LNG Export Study

Akin Gump Strauss Jauer & Feld LLP, May 23, 2025

Qatar's Big LNG Bet Comes Up Against US Ambitions

Bloomberg, May 21, 2025

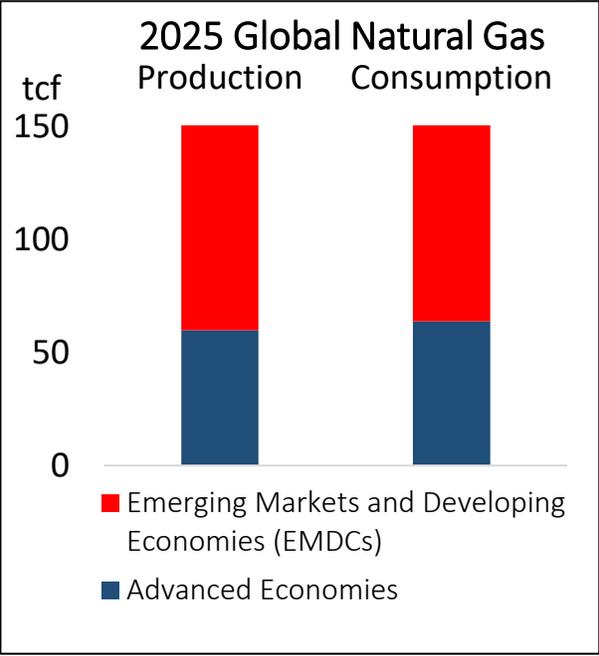
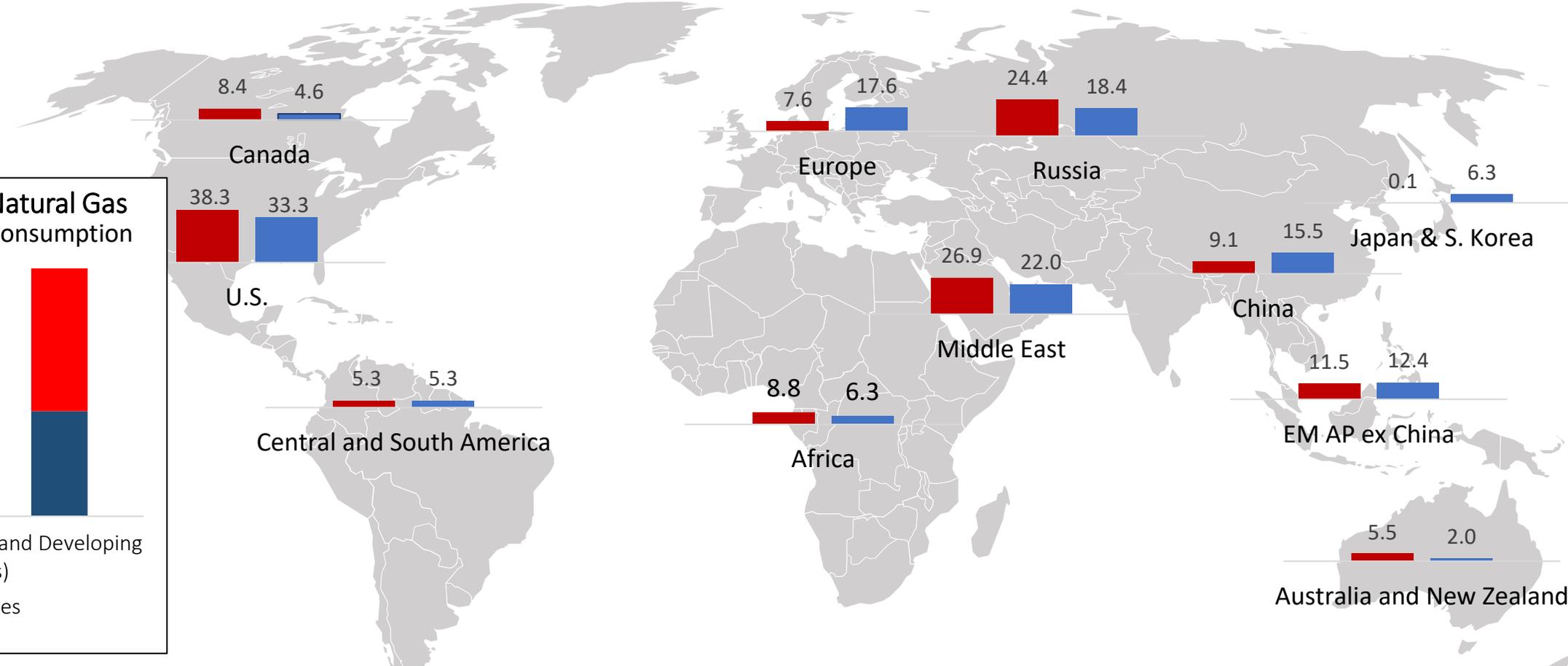


# North America continues to dominate incremental LNG supply, led by Texas and the Gulf Coast



- Emerging economies collectively have continued to lead global natural gas production and consumption growth
- The IEA projects global LNG supply growth to grow 5% y/y in 2025, with North America accounting for about 85% of global incremental supply, including the Plaquemines LNG Phase 1, Corpus Christi Stage 3 expansion, and LNG Canada projects

## 2025 Global natural gas production versus consumption – Trillion cubic feet (tcf)



sources: International Energy Agency; Energy Information Administration; TXOGA analysis

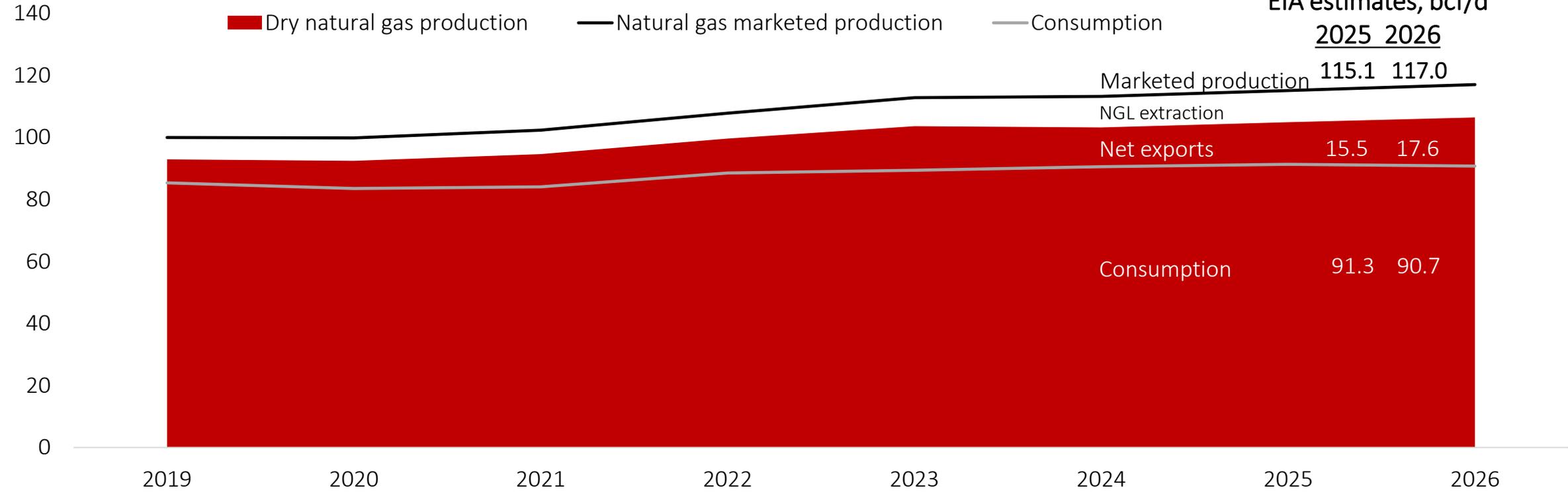
# U.S. natural gas marketed production and net exports have continued to set record highs



- ▶ U.S. marketed natural gas production was 115.5 bcf/d in Q2 2025 and could rise to a record high of 117.0 bcf/d in 2026 per EIA
- ▶ U.S. natural gas net exports could rise from 12.6 bcf/d in 2024 to 15.5 bcf/d in 2025 and 17.6 bcf/d in 2026
- ▶ Texas is producing over 33 bcf/d of marketed natural gas—near record levels—including approximately 28 bcf/d of dry natural gas and 3.8 mb/d of NGLs in Q2 2025, according to TXOGA estimates

## U.S. natural gas production and disposition

Billion cubic feet per day (bcf/d)



sources: U.S. Energy Information Administration (May 2025); TXOGA analysis

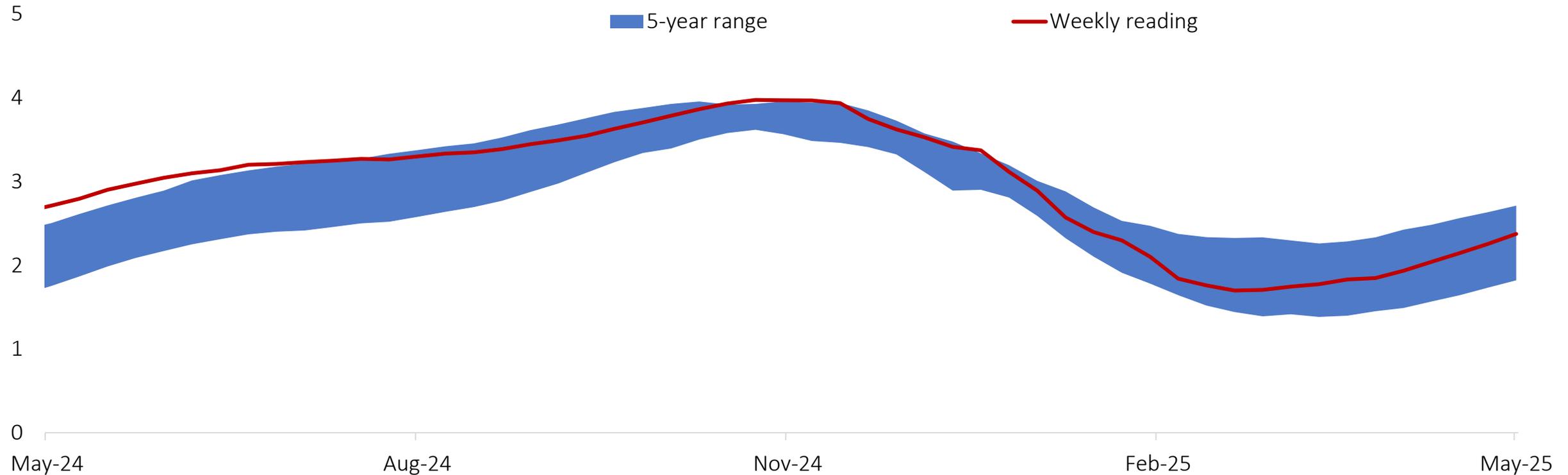
# U.S. gas storage levels are robust—within the upper third of the 5-year range



- ▶ Strong current working gas storage levels reflect economic and seasonal conditions that exert downward pressure on prices, but do not preclude winter volatility
- ▶ Working gas in underground storage rose by 4.3% w/w to 2.5 tcf as of May 23 – and to the top third within their 5-year range

## U.S. weekly working gas storage

Trillion cubic feet (tcf)

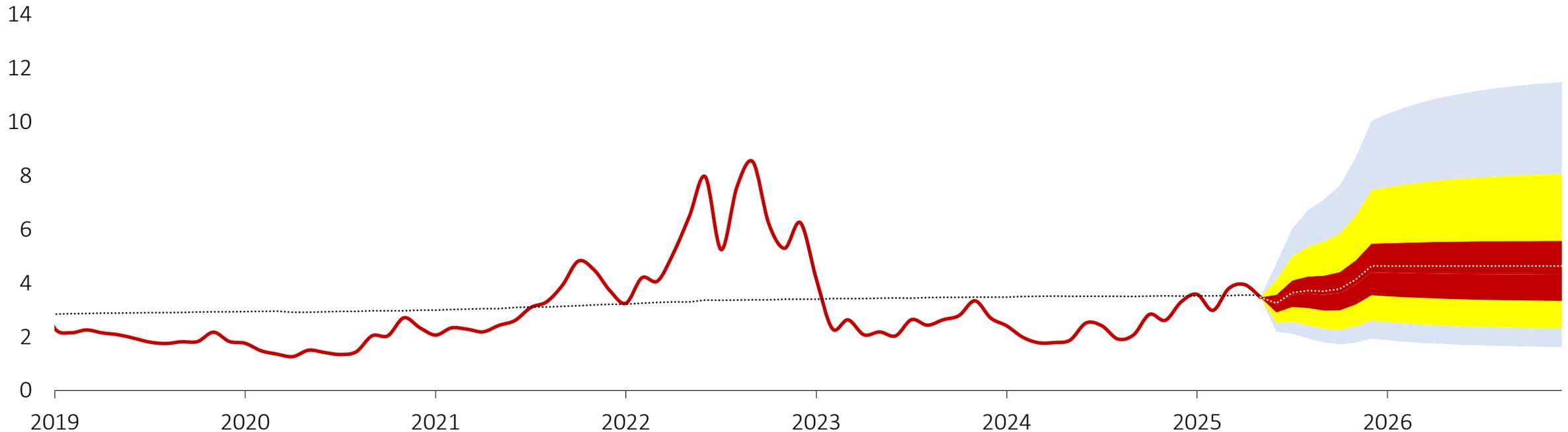


# Contango signals market expectations of higher natural gas prices in future months

- ▶ Futures prices have risen recently but remain below 2022–2023 averages
- ▶ Futures prices are in contango (that is, spot prices are lower than futures prices). Confidence intervals based on past prices show the potential for greater upside than downside
- ▶ Since spring/summer inventory levels are above average, weather variability and possible LNG supply disruptions could still expose consumers to price variability

## Natural gas price mean reversion analysis

Dollars per million Btu (2025\$)



# Productivity, Jobs, and Wages



# Texas rig productivity rose ~7% y/y in April 2025 across major basins



- EIA estimates of rig productivity for April 2025 showed rig productivity increased by 6.6% y/y in the Permian Basin and 6.9% y/y in the Eagle Ford, and 7.0% y/y in the Haynesville

## Oil & Gas technology headlines

**Breaking the Efficiency Barrier: Permian OFS Firms Race to Improve**  
Hart Energy, May 20, 2025

**The Ultimate Showdown in Eagle Ford Production Forecasting**  
Journal of Petroleum Technology, May 14, 2025

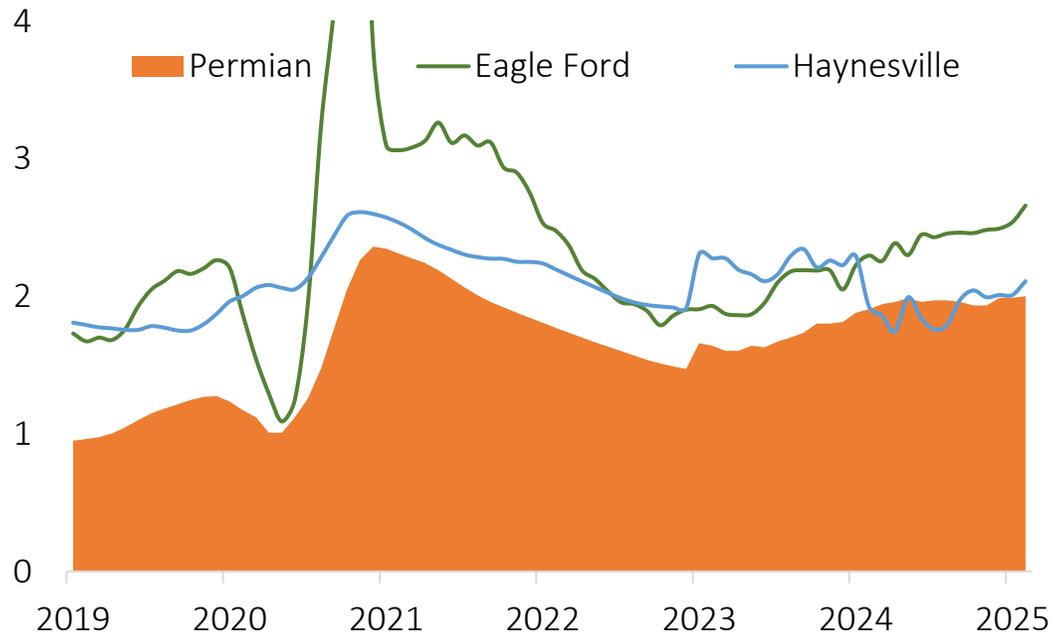
**ShaleTech report: Permian Shale rundown amid new administration**  
WorldOil, April 2025

**Nine best use cases of AI in the oil and gas industry**  
appinventive, May 19, 2025

**Next generation tooling redefines plug-and-play in short-hole drilling**  
Production Engineering Solutions, May 22, 2025

## Texas rig productivity by basin – new monthly production per rig

Thousand barrels per day oil-equivalent, kb/doe



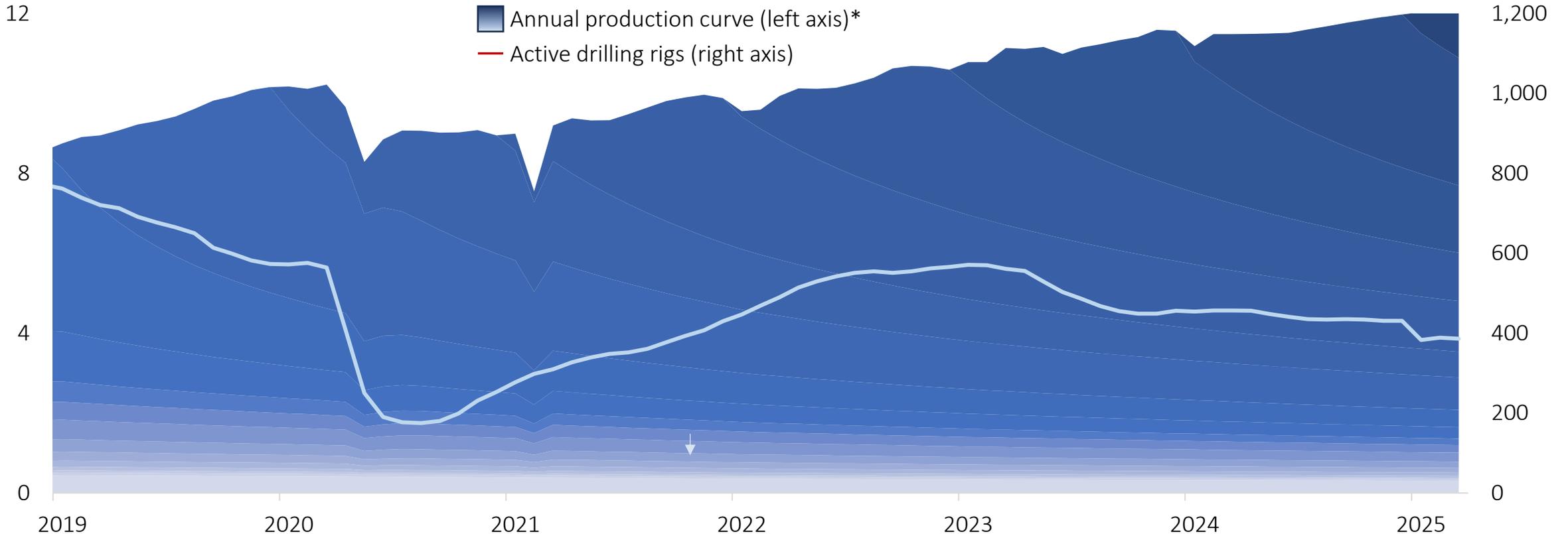
# Texas oil and gas output continues to grow despite reduced rig count — highlighting efficiency gains



- EIA estimates show changes in oil and natural gas production across Texas shale basins in April 2025, including the Permian (+5.7% y/y), Eagle Ford (+3.3% y/y), and Haynesville (+2.5% y/y)
- Year-to-date through April, the inventory of previously drilled by uncompleted wells (DUCs) increased in the Permian and Haynesville regions, but has been utilized and added to production in the Eagle Ford, per EIA

## Texas oil and natural gas production across major shale basins

Million barrels per day oil-equivalent (mb/doe)



\*Crude oil, condensates, natural gas gross withdrawals from Texas' Anadarko, Eagle Ford, Haynesville, and Permian Basin production regions.  
sources: Energy Information Administration; Texas Railroad Commission; TXOGA analysis

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