TXOGA
QUARTERLY ENERGY ECONOMICS OUTLOOK

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TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

Key Points – Q4 2025

Global, U.S., and Texas Economies

- Global GDP outlook firmed: **IMF lifts 2026–27 forecasts to 2.6%–2.7%, with fewer economies projected to slow**
- **U.S. consumers remain the fulcrum:** 90% of GDP growth from spending; record household debt and rising delinquencies heighten risk
- **Sentiment divergence:** confidence remains weak overall, sustained mainly by higher-wealth households tied to equity markets
- **ADS Index signals below-trend U.S. growth,** with moderated momentum entering Q4

Global Oil Market

- **EIA raises demand twice;** global consumption now expected to grow ~1 mb/d annually through 2026
- **2024 demand revised upward by +0.5 mb/d,** reinforcing record consumption
- **Non-OPEC supply dominates growth;** EIA still assumes U.S. slows to +0.2 mb/d in 2026—inconsistent with productivity gains
- **U.S. rig productivity surges** (Permian +14.1% y/y; Eagle Ford +8.7% y/y); futures remain aligned with **mean-reversion** expectations

Natural Gas Markets

- **Record global demand continues:** IEA sees +2.0% growth in 2026, led by emerging Asia
- **U.S. natural gas net exports up 42% y/y to 17.2 bcf/d in November;** current trends indicate the **U.S. is positioned to surpass Russia as the largest total gas exporter (LNG + pipeline) in 2026**
- **Henry Hub above $4.80 per million Btu,** with contango curve yet **storage in top 6%** of five-year range
- **U.S. supply fundamentals strong**: productivity gains coupled with >20 bcf/d Texas pipeline expansion support growing LNG volumes

Texas: Production, Exports, Productivity

- Texas' combined crude oil and natural gas production rose 5.8% year-to-date through November despite operating with 20.4% fewer rigs
- Texas anchors U.S. output**: Over 42% of U.S. crude oil and nearly 30% of marketed natural gas**
- 2025 energy exports on pace for ~$220 billion**, reinforcing Texas' role as global stabilizer**

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TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

Global, U.S. and Texas Economies

Global GDP growth: The base case points to gradual slowing through 2027 – though with less pessimism

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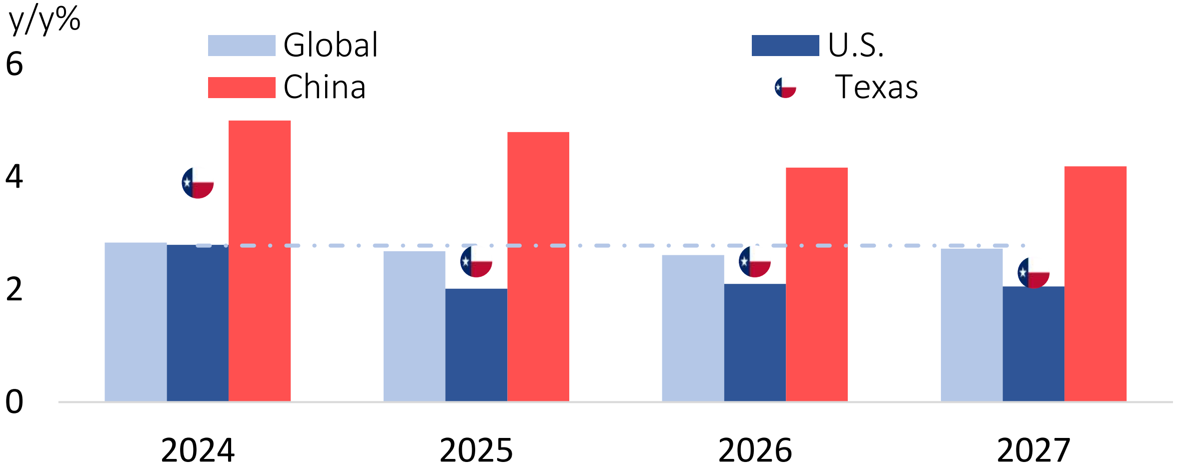
- The **IMF's October 2025 projections** raised global GDP growth by 0.1 percentage point for 2025, now at **2.7%,** with **2026 and 2027** largely unchanged at **2.6%** and **2.7%**, respectively
  - This reflects growth just below long-term averages and continued moderation in both the U.S. and China
- **Texas' economy** eased from **3.9% in 2024** to **2.6% y/y** in the first half of 2025, consistent with TXOGA's outlook for **2.5% growth in 2025–2026** and **2.3% in 2027**

Real GDP growth*



y/y%	Global	U.S.	China	Texas
2024	2.8	2.8	5.0	3.9
2025	2.7	2.0	4.8	2.5
2026	2.6	2.1	4.2	2.5
2027	2.7	2.1	4.2	2.3

* Market exchange rate basis sources: IMF; U.S. Bureau of Economic Analysis; TXOGA analysis

Percent of countries with projected economic deceleration by year

- Roughly **half of the world's economies** are now projected to experience slower growth in 2025 – **well above last year's expectations**
- Outlooks for **2026 remain steady**, while **2027 has turned notably more optimistic**

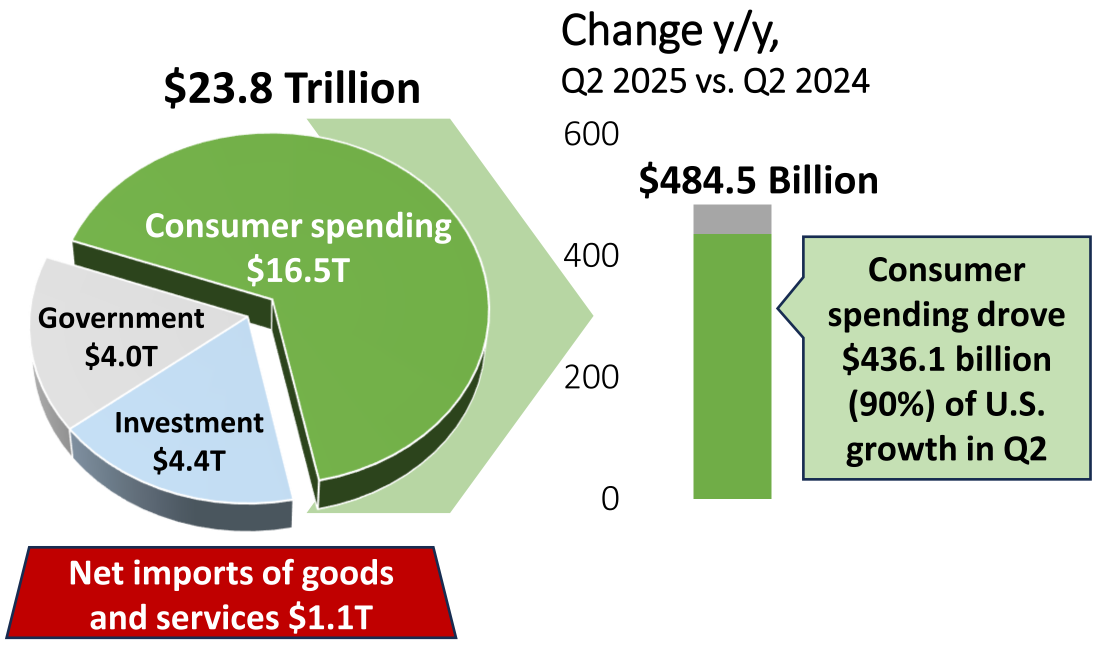
Percent decelerating	2025	2026	2027
Current (Q4 2025)	**51**	**44**	**33**
Last quarter (Q3 2025)	47	46	35
Last year (Q4 2024)	36	49	54

Consumer spending has driven 90% of GDP growth, but mounting debt and delinquencies could test its strength

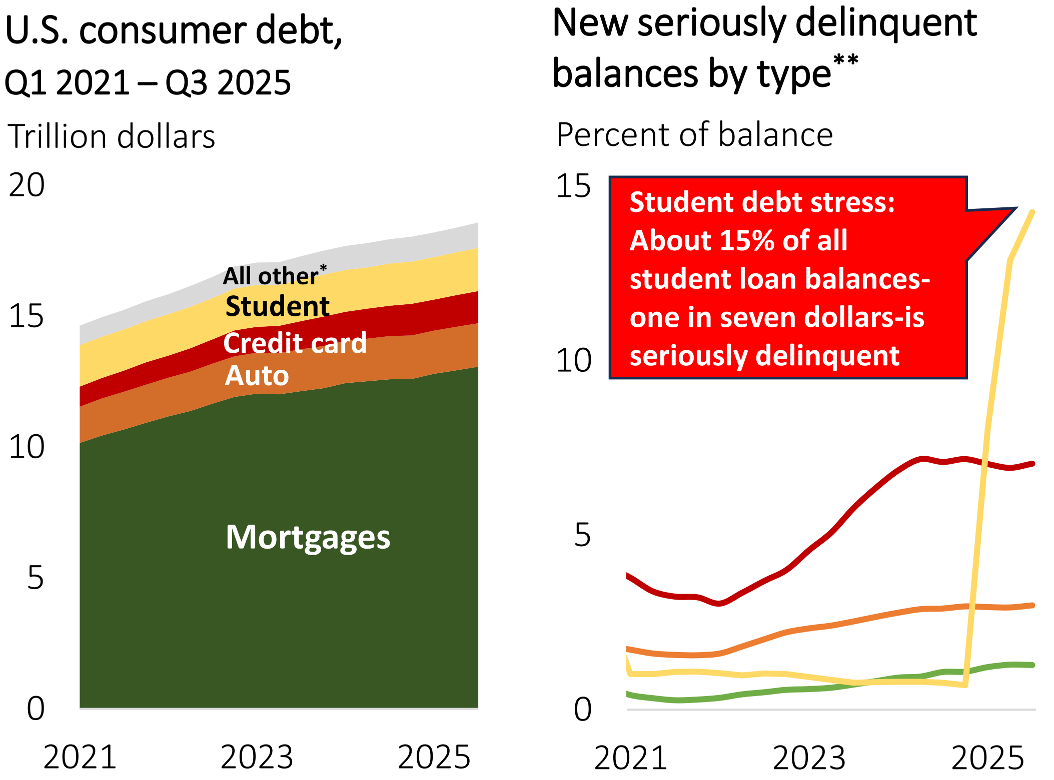
- **Consumer spending** accounted for **70% of U.S. real GDP** and **90% of its growth** in Q2 2025
- **Household debt** reached a **record $18.6 trillion in Q3 2025**, according to the New York Fed
- **Rising delinquencies**—especially in **auto loans, student loans, and credit cards**—may tighten credit access and weigh on spending growth

U.S. Real GDP by Expenditure, Q2 2025

Billions of chained (2017) dollars, Seasonally adjusted at annual rates



U.S. Debt and Delinquencies



*All other debt includes home equity revolving, and other categories

**Seriously delinquent = 90 days or more past due

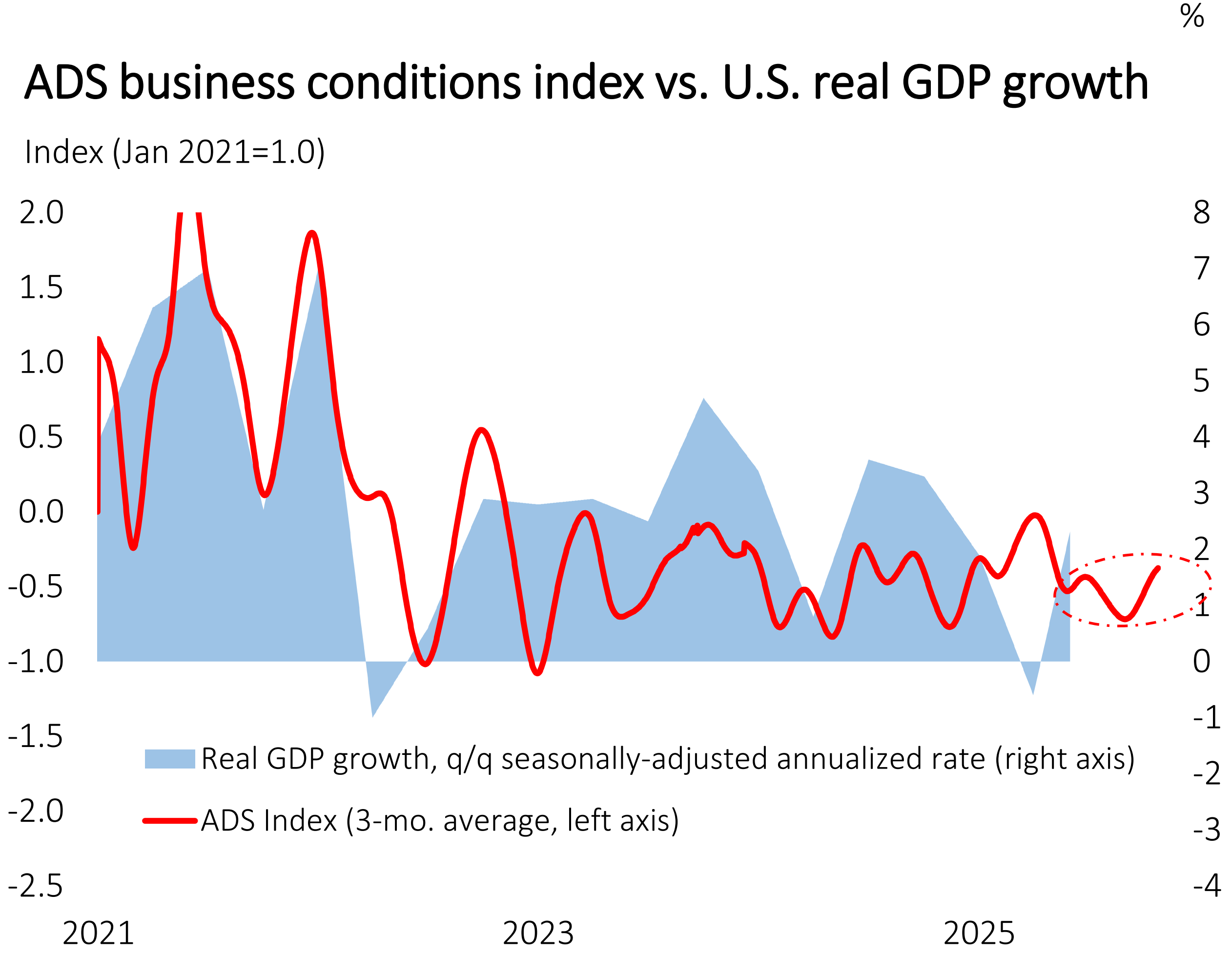
sources: Bureau of Economic Analysis; New York Federal Reserve Bank; TXOGA analysis

Business conditions remain supportive of U.S. GDP growth, though momentum has moderated

- **The Aruoba-Diebold-Scotti (ADS) business conditions index**, published by the Philadelphia Federal Reserve, provides a high-frequency snapshot of U.S. economic activity by combining data on employment, production, income, and sales
  - It helps businesses and policymakers anticipate near-term changes in growth conditions

- The **three-month rolling average of the ADS index** has reliably tracked and led U.S. GDP growth trends
  - It continued to signal below-trend growth through Q3, with modest improvement entering Q4, based on partial updates during the federal data release delays

ADS business conditions index vs. U.S. real GDP growth



* The Aruoba-Diebold-Scotti (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)

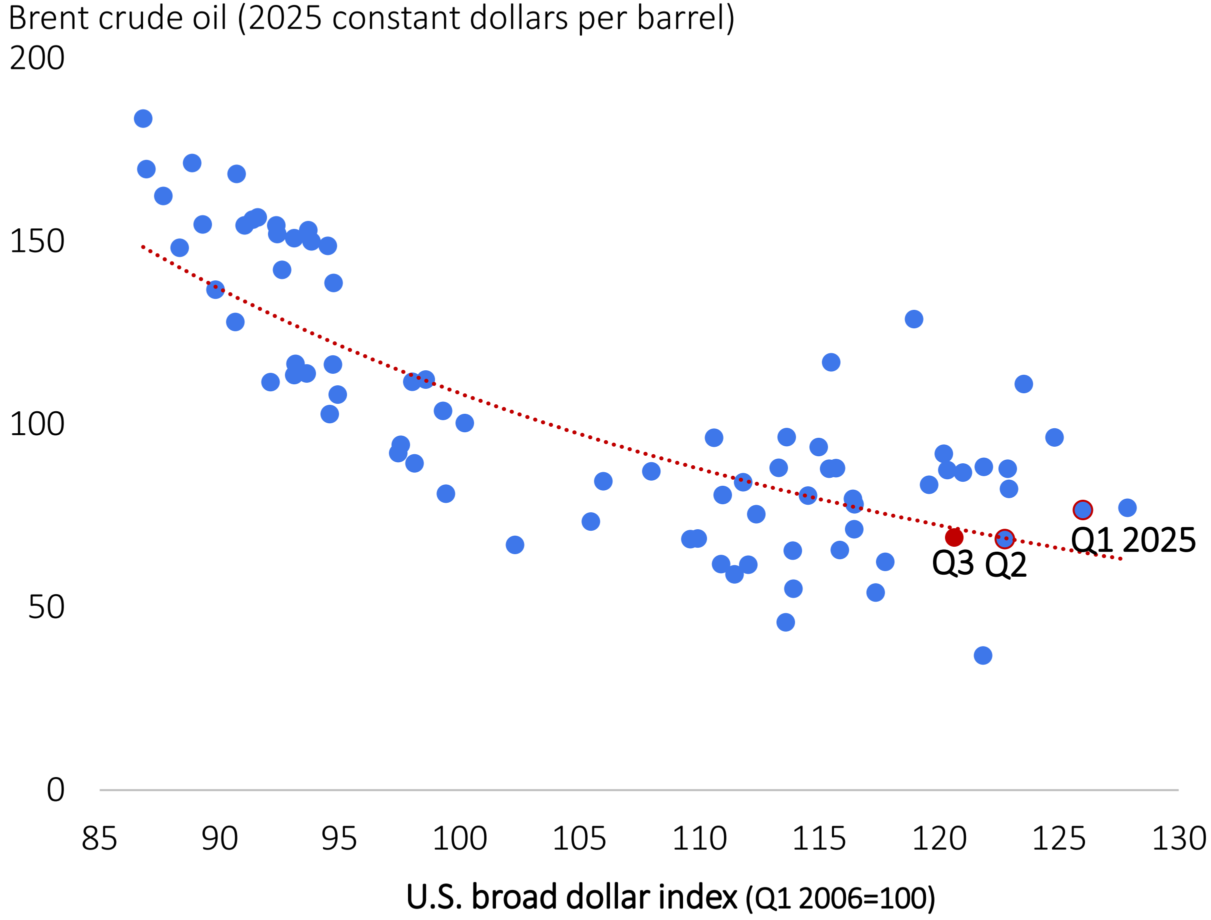
sources: Philadelphia Federal Reserve Bank; U.S. Bureau of Economic Analysis; TXOGA analysis

Dollar swings tie geopolitics and financial markets to oil prices

- **Established pattern.** Oil and the U.S. dollar move inversely: a weaker dollar makes crude cheaper abroad and boosts demand - a relationship reinforced in 2025
- **Transmission channels.** Dollar strength is shaped by interest rates, inflation, capital flows, and geopolitical shocks
- Geopolitical drivers
  - *Middle East* easing tensions lower risk premia and safe-haven flows
  - *Russia* sanctions and BRICS shifts divert trade and capital, affecting FX and barrels
  - *China* growth slowdown tempers demand but also shifts U.S. trade balances
- **Market psychology.** Even supply ample, dollar depreciation in 2025 has provided a tailwind to oil prices

U.S. broad dollar index and Brent crude oil prices

Q1 2006-Q3 2025



sources: Federal Reserve Board; BLS; EIA; TXOGA analysis

Oil Markets

Oil demand grows steadily, even with modest GDP gains

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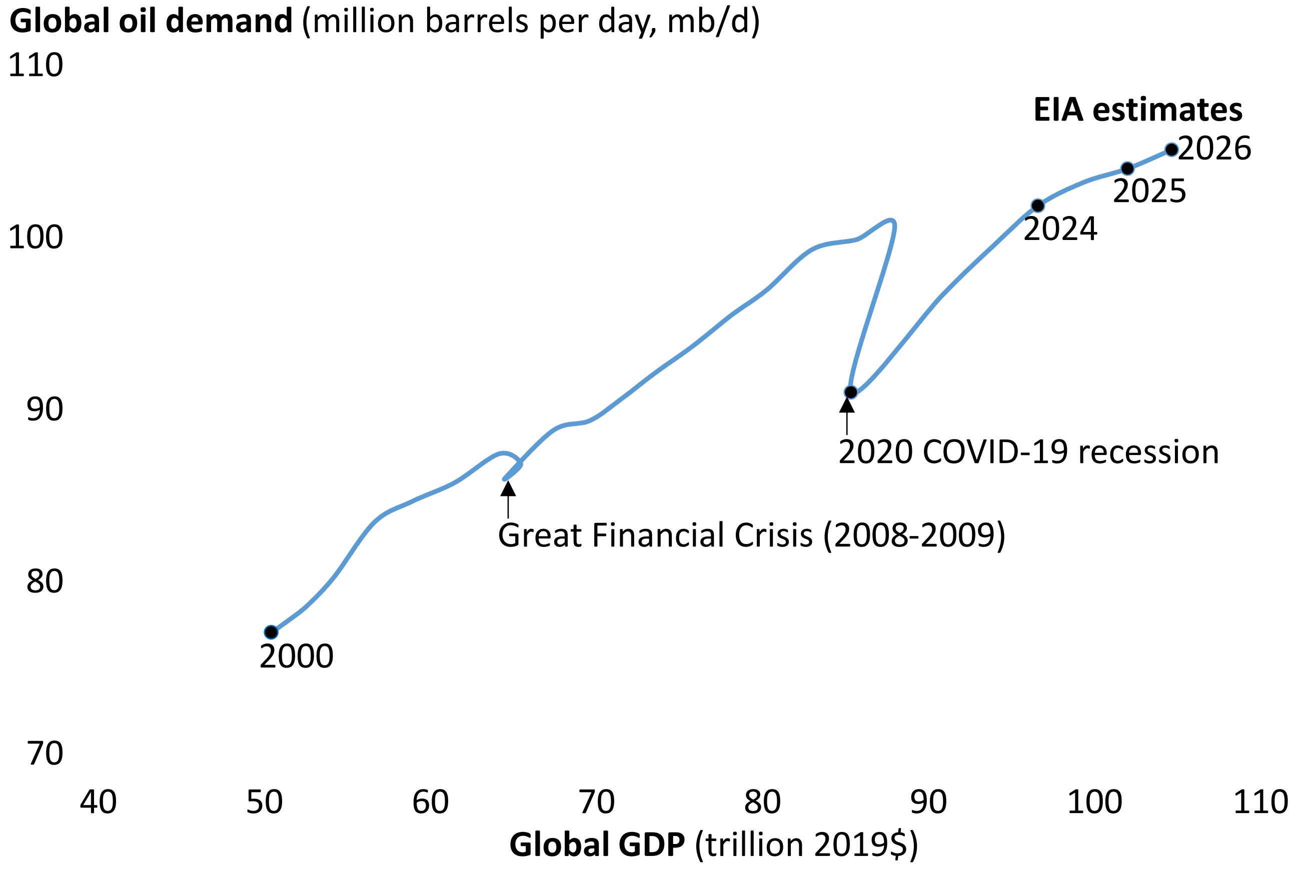
- **Global growth is modest but persistent.** IMF projects GDP growth of **2.7% in 2025** and **2.6% in 2026***, lifted by trade and financial easing, though risks remain from debt, inflation, and policy divergence
- **Currency tailwind.** A weak U.S. dollar continues to support crude prices despite mixed fundamentals
- **Demand keeps climbing.** EIA projects record world oil use: **103.2 mb/d** in 2024, **104.0 mb/d** in 2025, **105.1 mb/d** in 2026
- **Supply robust.** Non-OPEC growth steadies the outlook, easing pressure on prices
- **Official price outlook softens.** Brent projected to average $69 in 2025, dropping to **$52** in 2026, from ~$66 today, per EIA

Global oil demand vs. GDP



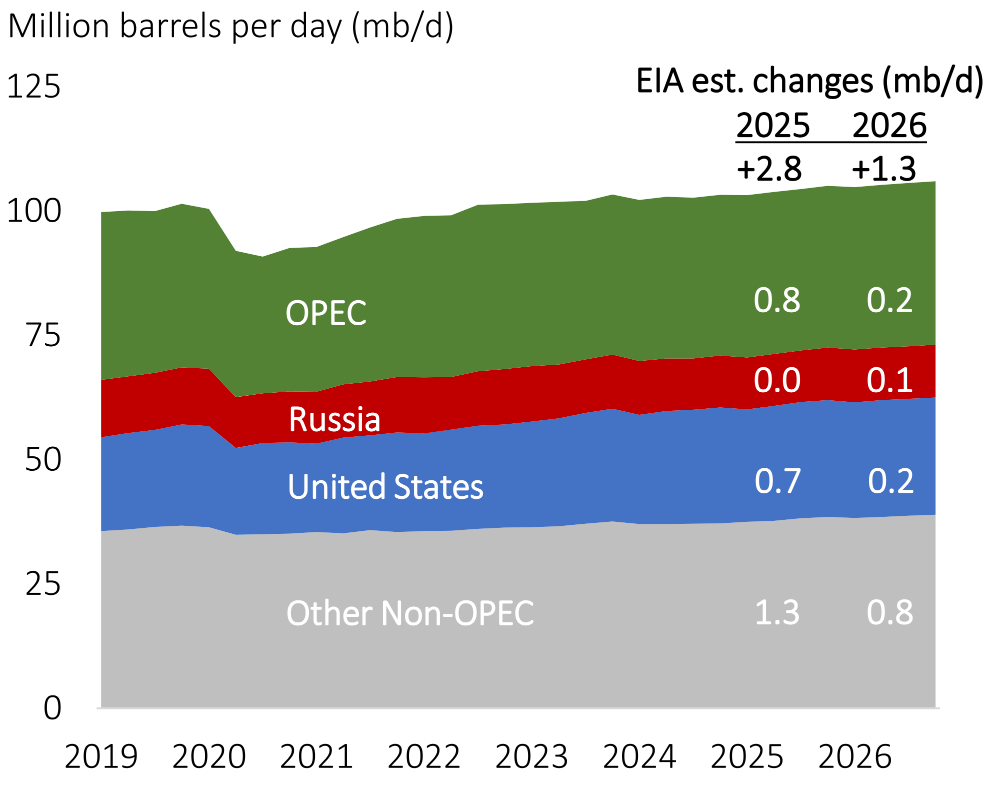
* Market exchange rate basis
sources: IMF (Oct. 2025); U.S. Energy Information Administration (Nov. 2025); TXOGA analysis

Supply growth outpaces demand — raising oversupply risks

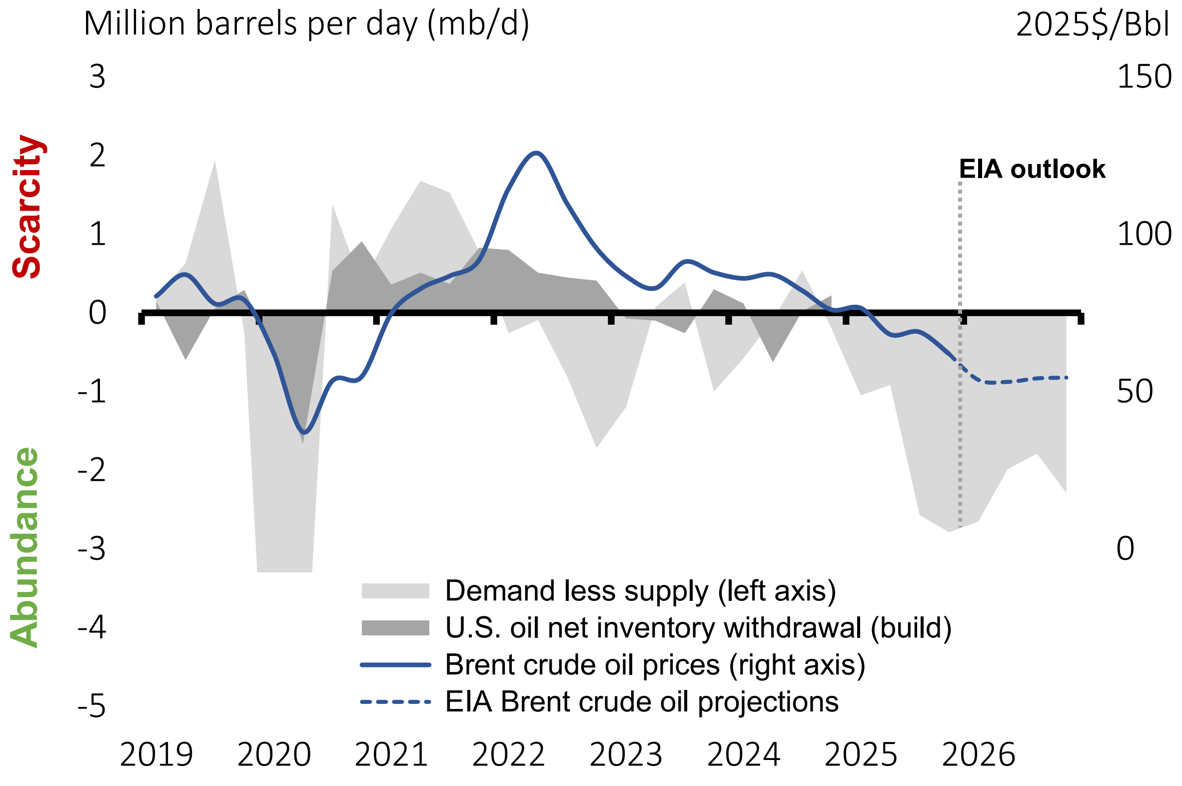
TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

- In its November update, EIA also raised its global supply growth by 0.1 mb/d in 2025 and 2026, with higher supply from the U.S. and other non-OPEC producers
- Brent crude oil prices are now projected by EIA to average $69 per barrel in 2025 and $55 in 2026 (+$3 per barrel vs. prior outlook)—compared with about $63 currently

Oil production by region



Global demand/supply & Brent prices

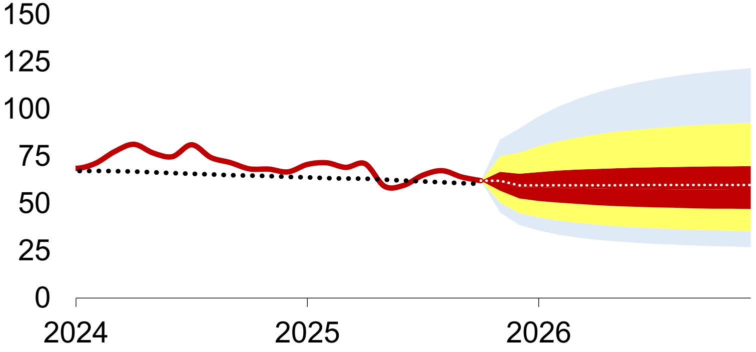


sources: U.S. Energy Information Administration (Nov. 2025); TXOGA analysis

U.S. oil market indicators: Balanced market expectations

WTI futures mean reversion analysis

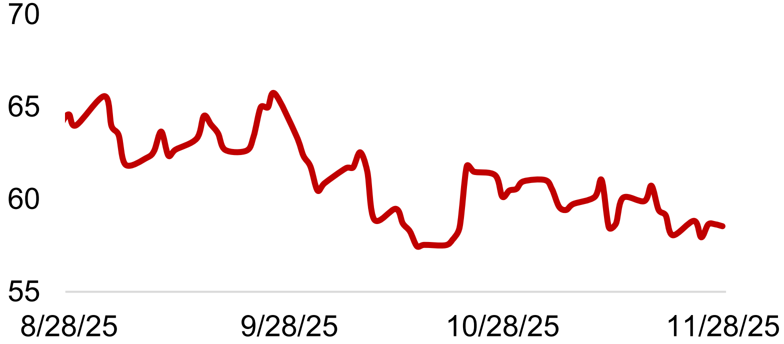
Dollars per barrel (2025$)



Near-term WTI futures remain aligned with their historical mean-reversion target, with forward prices remaining flat through 2026—suggesting expectations of similar near-term market conditions.

WTI crude prompt month futures prices

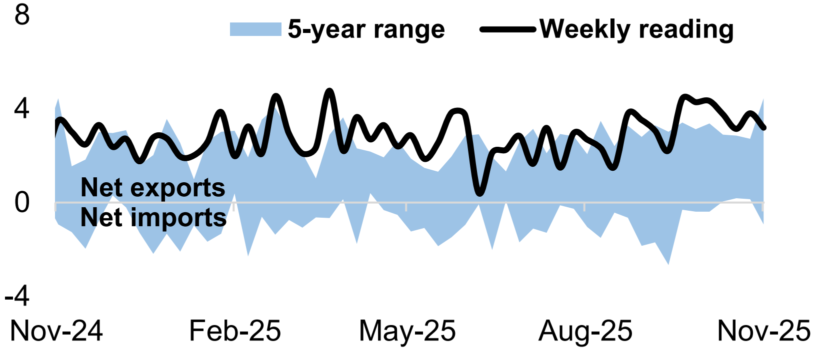
Dollars per barrel



WTI crude prices inched higher but remained range-bound amid opposing market forces. WTI rose 0.8% w/w to $58.55 per barrel as of November 28, supported by historically low U.S. inventories and steady demand, yet capped by strong current supply and OPEC's decision to extend its pause on additional production cuts.

U.S. petroleum net exports (imports)

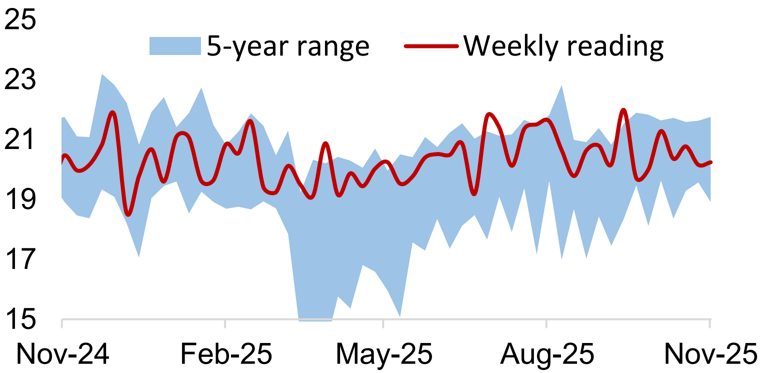
Million barrels per day, mb/d



U.S. petroleum net exports fell to 3.2 mb/d for the week ended November 21, down 0.6 mb/d (19.5%) from the prior week.

U.S. petroleum demand

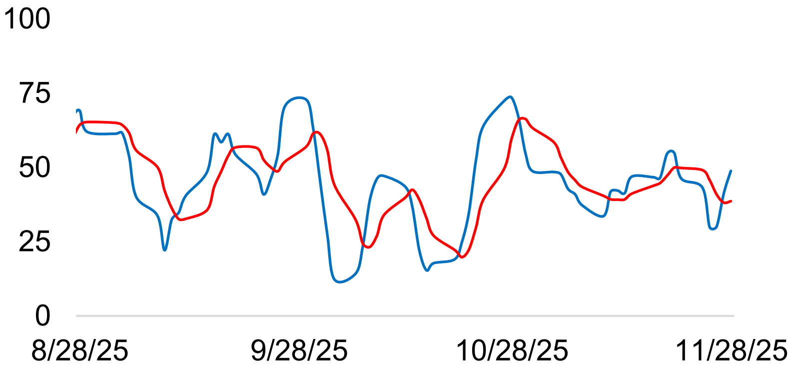
Million barrels per day (mb/d)



U.S. petroleum demand increased. As of November 21, deliveries averaged 20.2 mb/d, up 0.8 mb/d from the prior week.

WTI futures momentum indicator

Index level

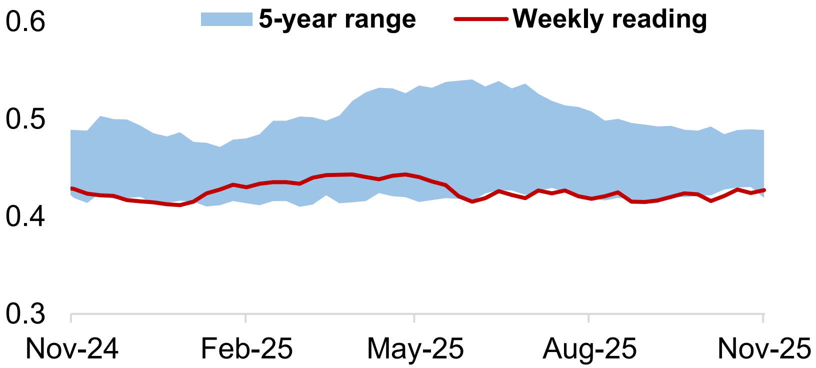


%K, %D 5 bars

Price momentum remained weak and without clear direction during the week ended November 28.

U.S. crude oil inventories (excluding the SPR)

Billion barrels



U.S. crude oil inventories increased by 2.8 million barrels for the week ended November 21, which was in the bottom 10% of the five-year range.

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

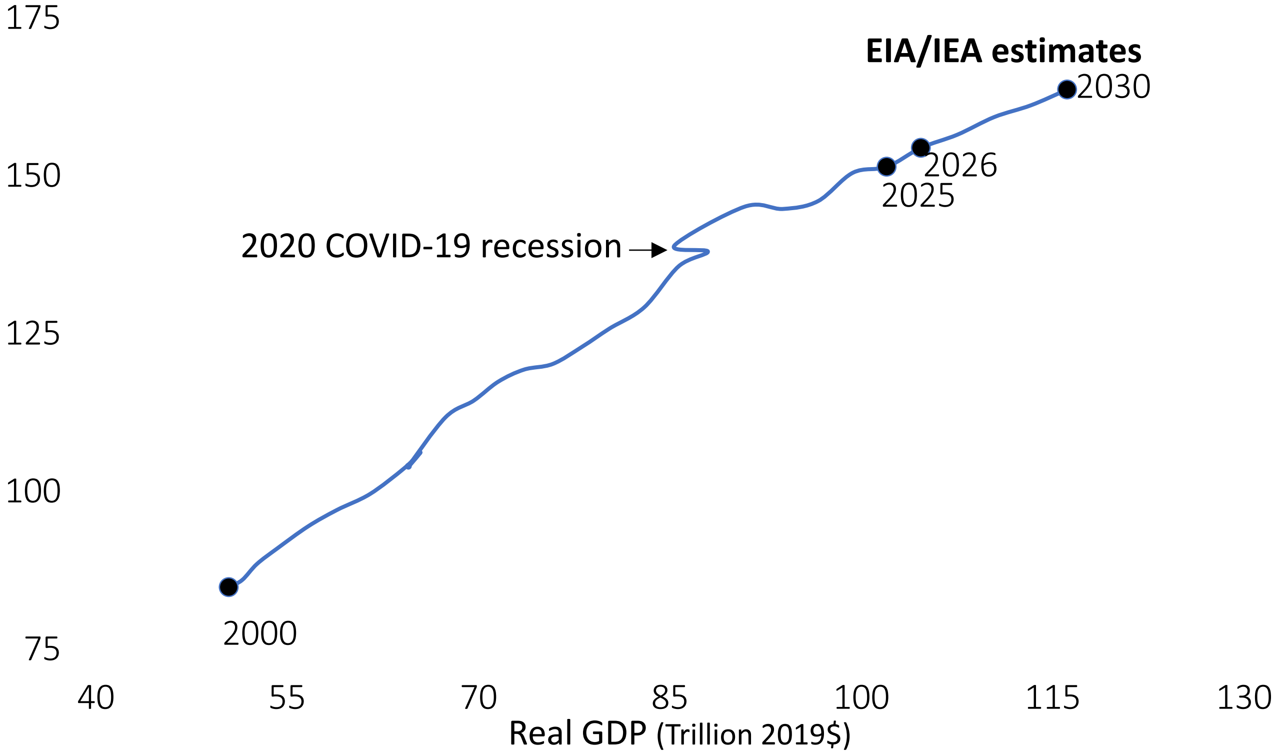
Natural Gas Markets

Record 2026 global gas demand — Driven by Asia's recovery and new LNG supply

- Global natural gas demand reached a record 150.7 tcf in 2025 and is projected to rise another 2.0% (+3 tcf) in 2026, the fastest pace since 2019; Asia Pacific accounts for nearly half of global demand growth, led by renewed Chinese LNG imports and regional capacity expansions
- Upgraded IEA estimates show demand rising 1.6% per year through 2030, underpinned by stronger industrial activity and new gas-to-power projects
- Emerging markets remain the key growth engine, while mature economies hold steady or decline slightly.

Global natural gas demand vs. GDP*

Trillion cubic feet (tcf)



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

Global natural gas headlines

Coming surge in LNG production is set to reshape global gas markets
IEA, Oct. 27, 2025

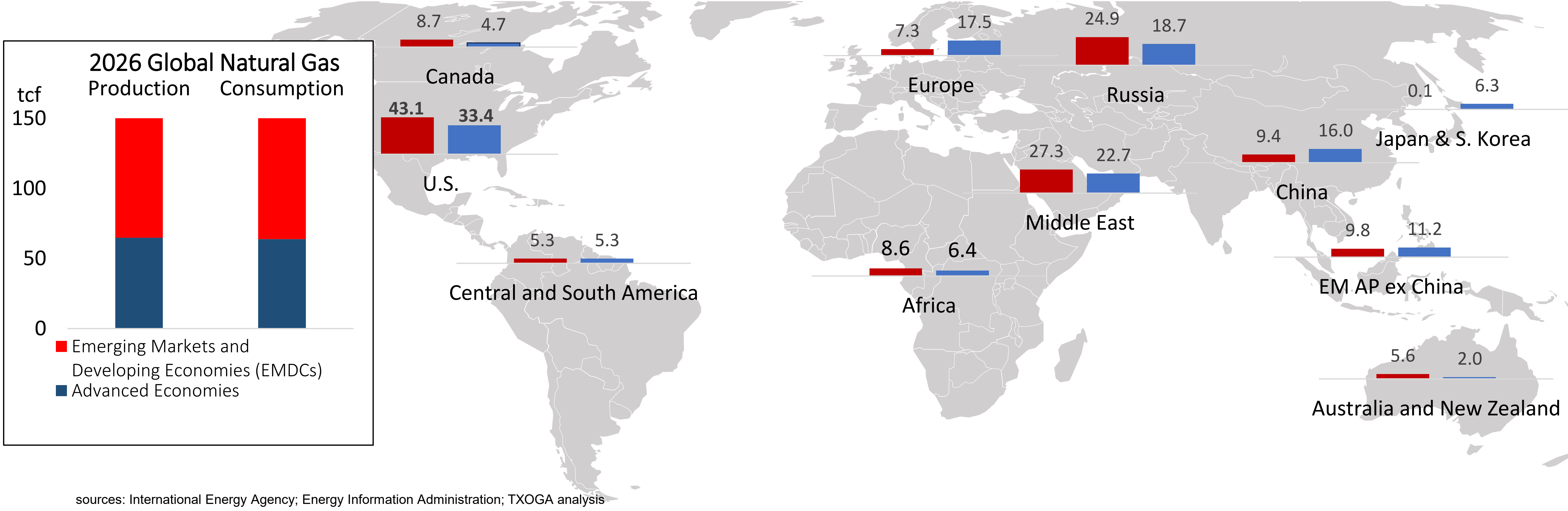
Europe's LNG Demand Surge Flips Global Gas Market
Yahoo Finance, Nov. 8, 2025

ICE Gas Markets Hit Record Liquidity on LNG Exports, Pipeline Constraints
Pipeline & Gas Journal, Nov. 10, 2025

North America to lead 2026 LNG supply growth — Driven by Texas and Gulf Coast projects

- The IEA projects **global natural gas demand to rise by 2.0% in 2026**, reaching a new all-time high, driven by **Asia Pacific**, which accounts for roughly **half of global demand growth**
- **North America leads global LNG supply expansion** with ramp-ups at Plaquemines LNG Phase 1, Corpus Christi Stage 3, and LNG Canada, solidifying the U.S. as the world's top exporter
- **Russian pipeline flows to Europe are assumed near zero**, making ~7% annual LNG supply growth pivotal to balancing global markets
- **U.S. is positioned to surpass Russia** as the largest total gas exporter (LNG + pipeline) in 2026

2026 Global natural gas production vs. consumption – Trillion cubic feet (tcf)

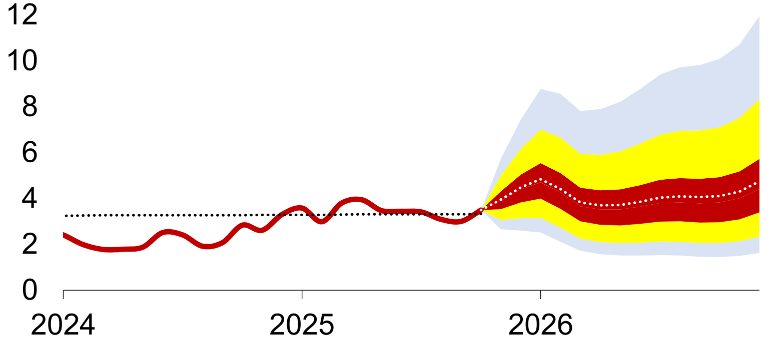


sources: International Energy Agency; Energy Information Administration; TXOGA analysis

U.S. natural gas market indicators: Strong sustained market expectations

Natural gas futures mean reversion analysis

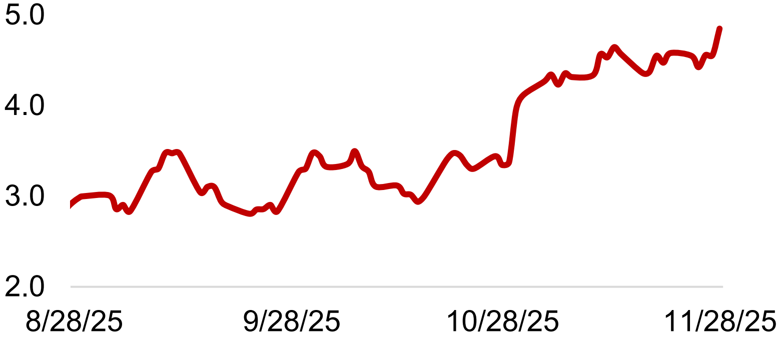
Dollars per mmBtu (2025$)



Near-term futures exceed their historical mean-reversion target, with forward prices in contango (spot prices below futures). Confidence intervals imply greater potential for upside movement than downside risk.

Natural gas prompt month futures prices

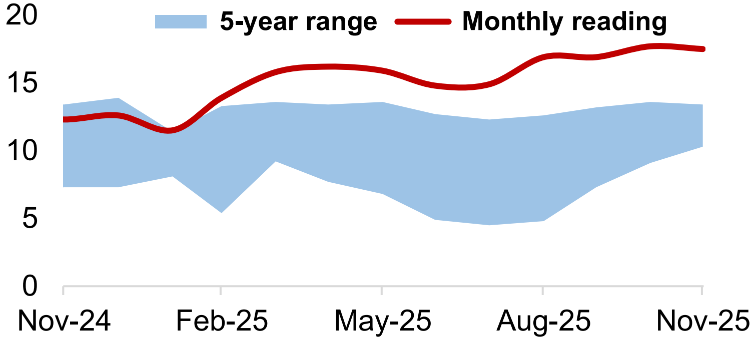
Dollars per million Btu



Natural gas prices 5.9% w/w to $4.85 per mmBtu as of November 28, reflecting expectations for colder weather.

U.S. natural gas net exports

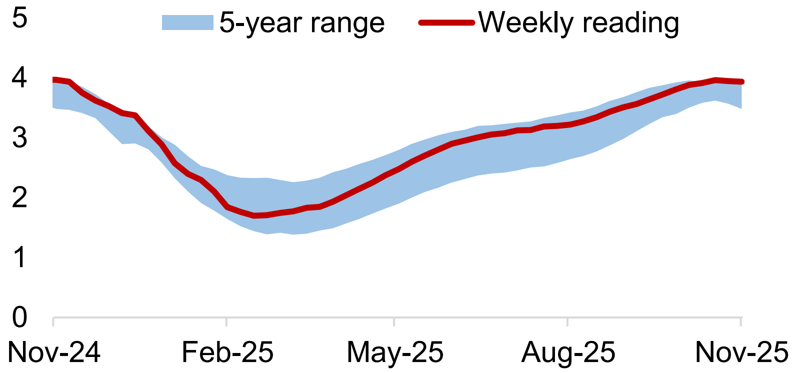
Billion cubic feet per day, bcf/d



According to revised EIA estimates, **U.S. natural gas net exports rose 42% y/y** to 17.5 bcf/d in November, supported by continued LNG strength.

Working natural gas storage

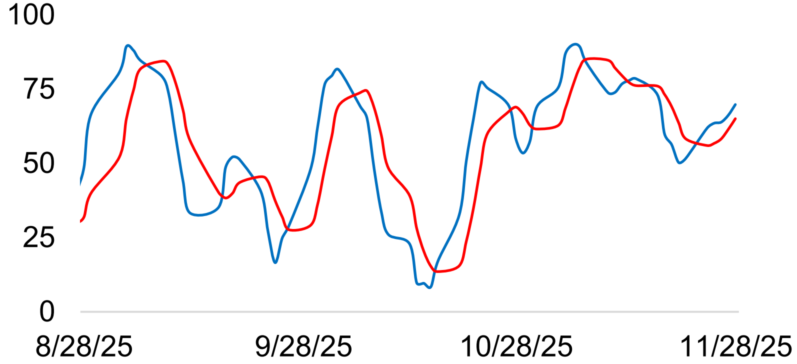
Trillion cubic feet (tcf)



Working natural gas storage decreased 0.3% w/w to 3.94 tcf as of November 21 -- top 7% of the five-year range.

Natural gas futures momentum indicator

Index level

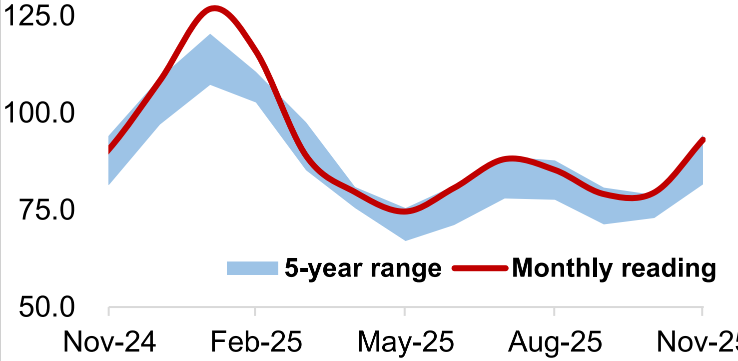


%K, %D 5 bars

Price momentum turned positive during the week ended November 28.

U.S. natural gas consumption

Billion cubic feet per day, bcf/d



Consumption rose 2.5% y/y to 93.1 bcf/d in November, according to EIA estimates.

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

Productivity, Jobs, and Wages

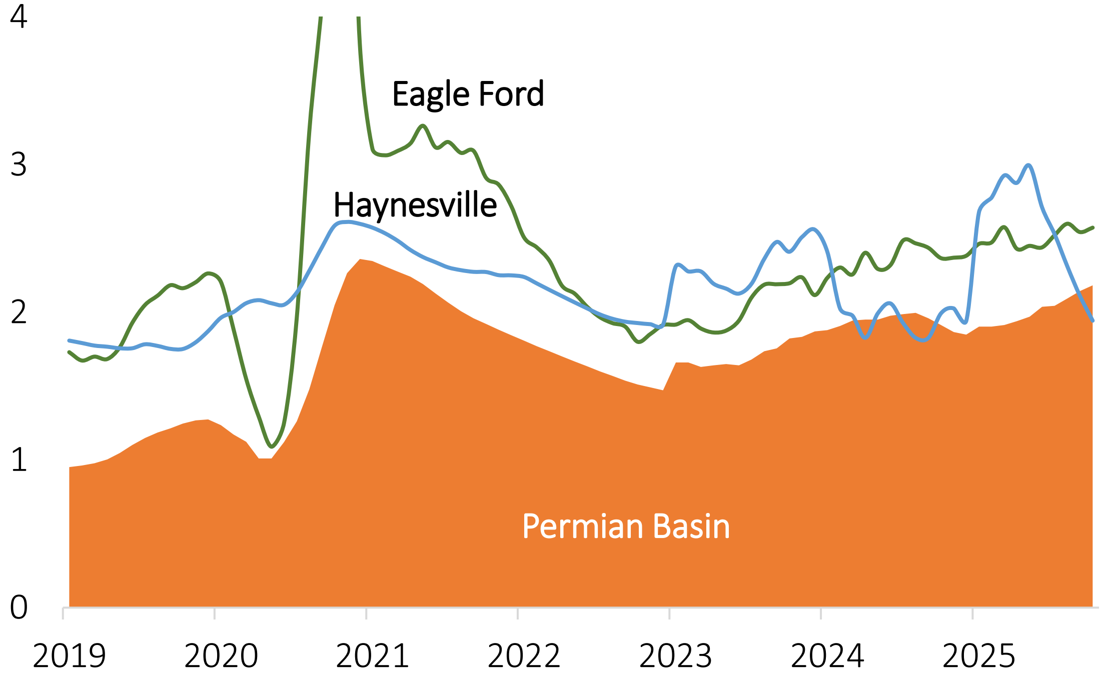
TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

Texas rig productivity rises in Permian and Eagle Ford

- **Rig productivity rose in the Permian and Eagle Ford.** EIA estimates for October 2025 show rig productivity up 14.1% y/y in the Permian and 8.7% in the Eagle Ford, but down 2.5% in the Haynesville.

Texas rig productivity by basin — new monthly production per rig

Thousand barrels of oil-equivalent per day (kb/doe)



Oil & Gas technology headlines

U.S. rig counts remain low as production efficiencies improve
EIA, Nov. 17, 2025

US Shale Operators Defy $60 Oil to Keep Increasing Production
Bloomberg, Nov. 6, 2025

Energy crossroads: Market uncertainty and AI are transforming the industry
Deloitte, Oct. 29, 2025

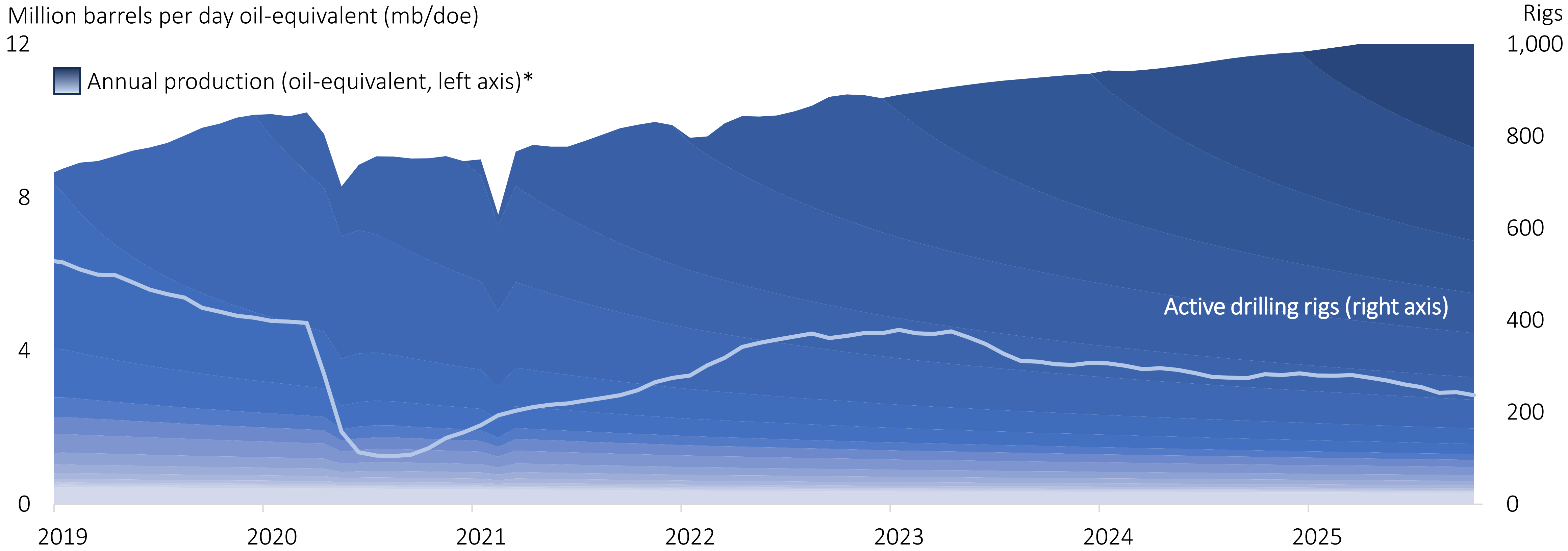
source: Energy Information Administration (EIA); TXOGA analysis

Texas oil and gas output rises despite fewer rigs, underscoring efficiency gains

TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

- EIA estimates show continued production growth across major Texas shale basins in October 2025, including the Permian (+0.9% y/y) and Haynesville (+5.2% y/y), while the Eagle Ford declined 3.9% y/y
- Texas' crude oil and natural gas production has increased **5.8%** despite utilizing **20.4%** fewer rigs **year-to-date through November**

Texas shale production and rig activity



*Crude oil, condensates, natural gas gross withdrawals from Texas' Anadarko, Eagle Ford, Haynesville, and Permian Basin production regions.

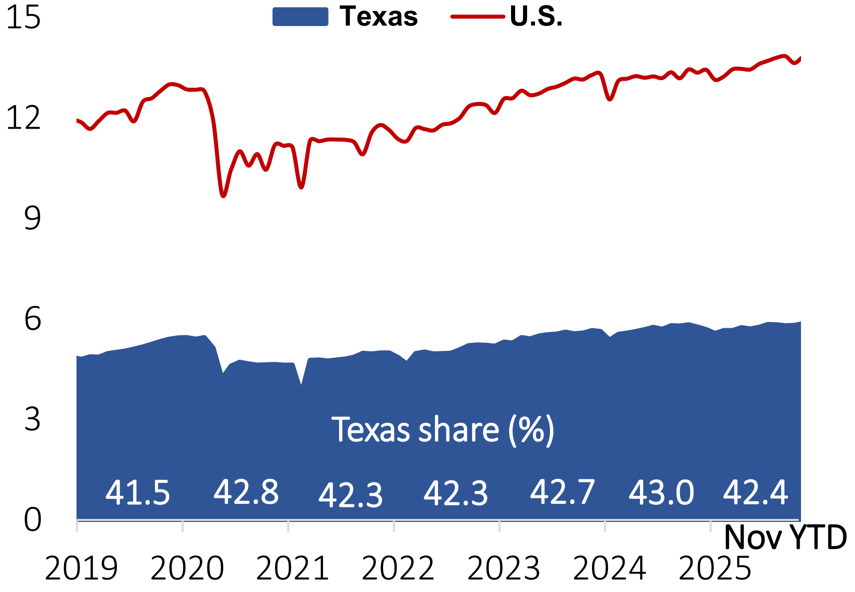
sources: Energy Information Administration; TXOGA analysis

Texas anchors U.S. energy leadership and exports

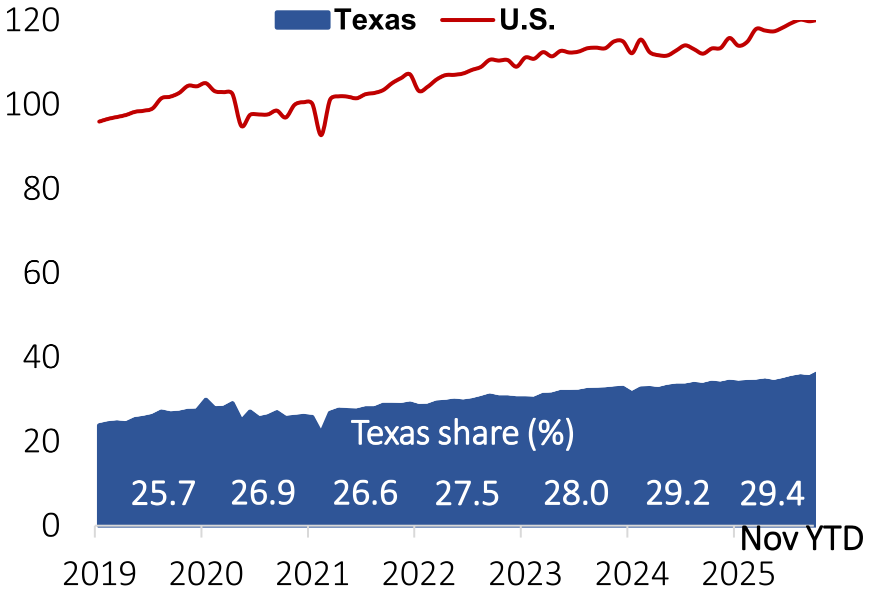
TXOGA MONTHLY ENERGY ECONOMICS REVIEW

- **Estimated record production.** Texas crude oil output held near record highs at **5.8 mb/d** in September 2025 (EIA), with TXOGA estimates showing production rising to **5.9 mb/d** in November, the highest on record
- **National share.** Texas delivers over **42% of U.S. crude oil** and nearly **30% of marketed natural gas**
- **Export engine.** On pace to export ~$220 billion in 2025, spanning crude, LNG, NGLs, and refined products
- **Reliability.** TXOGA estimates align with EIA data **within 0.5%**, reinforcing accuracy and transparency

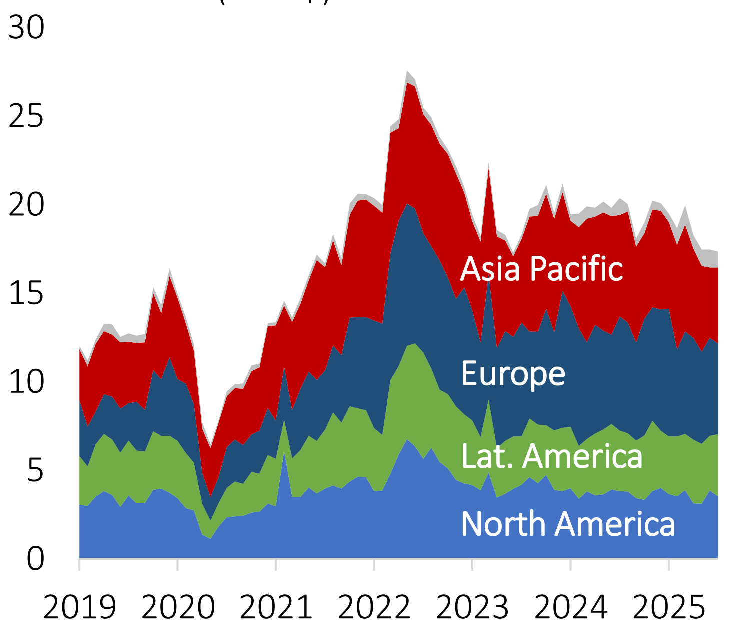
U.S. and Texas crude oil production, Jan. 2019 – Nov. 2025



U.S. and Texas natural gas marketed production



Texas' exports of crude oil, natural gas, hydrocarbon gas liquids (HGLs) and refined petroleum products, by region and month



sources: Energy Information Administration (EIA); TXOGA analysis

Risks & Opportunities Shaping Energy Markets

Macro & Finance

- Interest rates, monetary policy, and trade dynamics shape investment
- Dollar strength/weakness influences oil
- Rising debt pressures growth

Technology & Demand

- AI & data centers drive continuous power demand
- Electrification adds growth, near-term often enabled by diesel backup
- Natural gas reliability and cost-effectiveness remain essential

Policy & Regulation

- Infrastructure, permitting, and supply chains enable investment
- Policy credibility vs. uncertainty shapes competitiveness
- State vs. Federal dynamics create divergent operating environments
- Global wildcards—Russia/Ukraine, OPEC+ decisions—drive volatility

TXOGA QUARTERLY ENERGY ECONOMICS OUTLOOK

Closing Takeaways: Demand • Supply • Policy

Demand growth

- Oil & natural gas demand keeps setting records — even with modest GDP growth

Supply Outpaces Demand

- Supply growth outpaces demand; concerns center on oversupply, with OPEC+ and Russia/Ukraine as wildcards

Texas: Epicenter of Global Energy

- Texas anchors U.S. exports
- Productivity and policy support are pivotal – and have remained strong

Markets seek long-term balance, with room for transition — but credible, predictable policy supporting energy and infrastructure will determine competitiveness

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Texas Energy. Texas Jobs. Texas Leadership.