

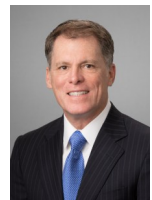
Weekly E&P Update

March 25, 2025

Vol. 12

DOE's LNG Studies: Policy Delay or Methodological Upgrade?

By Steve Hendrickson
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In the ongoing debate over the appropriate level of U.S. liquefied natural gas (LNG) exports, a fresh controversy has emerged—not just over policy, but over the data itself. Critics of the Biden administration argue that an unredacted draft study on LNG export emissions was “buried” because it allegedly conflicted with the administration’s climate goals. They further claim the final study, released months later, was an unnecessary re-examination meant to delay new LNG project approvals. But are these concerns justified—or did the final study genuinely improve upon the draft’s methods?

Comparing Key Findings from the Draft and Final Studies

Both versions of the DOE study explored a range of potential effects from increased LNG exports, but some of their conclusions shifted due to updated modeling assumptions and emissions accounting. A closer look at three critical metrics—natural gas production, domestic prices, and global GHG emissions—illustrates how the findings evolved.

- **U.S. Natural Gas Production:** The draft study projected that LNG expansion would drive significant growth in U.S. natural gas production, especially in resource-rich regions. The final study confirmed this trend but offered more refined regional breakdowns and sensitivity analyses, indicating that production increases were largely consistent across different export and supply scenarios.
- **Domestic Natural Gas Prices:** The draft study forecasted that higher LNG exports would raise Henry Hub prices and delivered natural gas prices slightly for residential, industrial, and power sectors. The final study reached similar conclusions but quantified the consumer impacts in greater detail, including regional disparities and energy burden across income groups; regions exposed to increased export activity were expected to be more affected. It also concluded that under constrained supply scenarios increased exports could lead to noticeable price increases for households and manufacturers.
- **Global GHG Emissions:** The draft study found that LNG export expansion across most scenarios would lead to very similar GHG emissions through 2050 at approximately 2015 levels. The final study concluded that emissions would increase across all scenarios, but the magnitude varied widely depending on market responses and end-use technologies. In some cases, emissions increases were small; in others, they were substantial—especially when LNG displaced lower-carbon alternatives or encouraged higher energy demand.

Methodological Differences

The final study introduced methodological improvements that likely account for many of the differences in emissions estimates. Most notably, it employed a **consequential life-cycle analysis (LCA)** framework that assessed how global energy systems would respond dynamically to increased U.S. LNG exports. This approach incorporated the extent to which LNG displaces not just coal and other natural gas sources, but also nuclear and renewables in various markets. The draft report used an **attributional/partial consequential approach** that accounted for some, but not all, changes in global fuel use in response to increased LNG exports.

While both the draft and final studies used similar modeling tools and scenario structures, the final study also featured a more granular accounting of emissions intensity across supply chains and global fuel mix responses, enabling clearer attribution of changes in global emissions to U.S. LNG expansion.

Another apparent difference between the studies is the inclusion of a methane leak rate related to oil and gas production. The most relevant scenarios of the draft study (S1-S5) used a version of the National Energy Modeling System (NEMS) that doesn’t include methane leakage, whereas the final study assumed that 0.56% of production was leaked as a baseline but multiple sensitivities around this value were considered as well.

Critics: Allegations of Suppression and Delay

Critics of the Biden administration argue that the final study was undertaken to justify a pause in approval of new LNG export permits as part of a strategy to delay investment in LNG infrastructure. They contend that the draft was “shelved” because its findings conflicted with a policy direction favoring more cautious LNG expansion. However, both the draft and final studies acknowledged potential emissions increases, with the final study providing more refined estimates based on updated methodology.

While both studies showed that LNG exports may lead to higher global emissions, especially when they displace low-carbon energy sources or potential methane leaks are included, the final version provided a more robust framework for understanding the full range of outcomes across different regions and scenarios.

One thing is clear from reading both reports: modeling the complex economic and emissions response to increase LNG exports is very difficult. The output of any one of the modelling scenarios is highly uncertain, and we don’t know which scenario will ultimately occur.

A legitimate question, however, is whether the permitting pause was necessary to complete the final study; it’s hard for me to understand why it was, and it certainly wouldn’t be the first time politicians have used “further study” as an excuse to delay action their supporters were opposed to. That said, the final study does seem to be robust and transparent, and it provides policymakers another set of tools to consider the implications of future decisions.

Sources and further reading

1. [Summary Report \(December 2024\)](#)
2. [Appendix A: Global Energy and Greenhouse Gas Implications of U.S. LNG Exports](#)
3. [Appendix B: Domestic Energy, Economic, and Greenhouse Gas Assessment of U.S. LNG Exports](#)
4. [Appendix C: Consequential Life-Cycle Greenhouse Gas Analysis](#)
5. [Unredacted Draft Study \(September 2023\)](#)
6. [Biden's Energy Department Suppressed LNG Study, GOP Says](#)
7. [Update Public Records Lawsuit Suggests DOE Concealed LNG Export Study](#)

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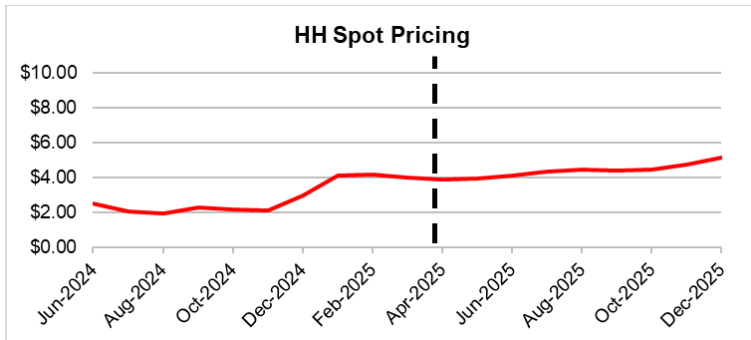
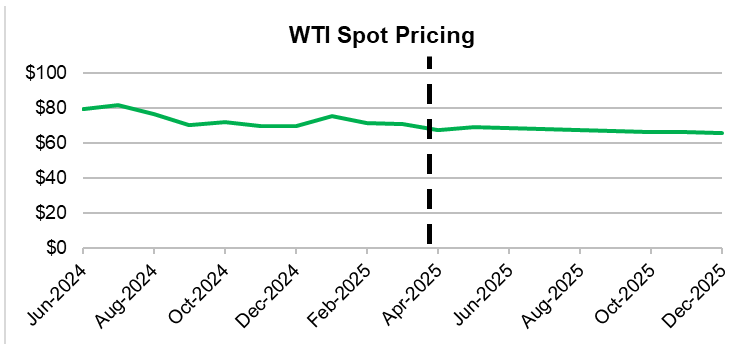
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NYMEX FUTURE PRICING



MONDAY'S MARKET CLOSE

NYMEX WTI CRUDE OIL FUTURES as of March 24, 2025 Close (\$/bbl)

Period	Current	WoW Change	Last Week	1 Yr Ago
2025	\$67.47	\$1.30	\$66.17	\$73.91
2026	\$64.65	\$0.95	\$63.70	\$69.72
2027	\$63.41	\$0.60	\$62.81	\$66.99
2028	\$62.80	\$0.33	\$62.47	\$65.28
2029	\$62.35	\$0.09	\$62.26	\$64.41

NYMEX HH NATURAL GAS FUTURES as of March 24, 2025 Close (\$/MMBtu)

Period	Current	WoW Change	Last Week	1 Yr Ago
2025	\$4.40	(\$0.09)	\$4.49	\$3.41
2026	\$4.39	(\$0.05)	\$4.44	\$3.74
2027	\$3.87	\$0.01	\$3.86	\$3.77
2028	\$3.64	\$0.02	\$3.62	\$3.71
2029	\$3.52	\$0.03	\$3.49	\$3.65

INDUSTRY METRICS—QUICK SNAPSHOT

	Current	Last Week	WoW Change	%Change
Crude Oil Near-Month Price (\$/bbl)	\$68.35	\$67.35	\$1.00	2%
Natural Gas Near-Month Price (\$/MMBtu)	\$3.88	\$4.12	(\$0.24)	(6%)
Weekly Upstream-Deal Transaction Value (\$MM)	\$0.00	\$1,200.00	(\$1,200.00)	(100%)
Weekly Number of Upstream-Deal Transactions	0	1	(1)	(100%)
Current Total US Rig Count	593	592	1	0.2%
US Field Crude Oil Production (MMbbl/day)	13.6	13.6	(0.0)	(0.0%)
US Field Dry Natural Gas Production (Bcf/day)	110.6	110.7	(0.1)	(0.1%)
Commercial Crude Oil Stocks-Excluding SPR (MMbbl)	437	435	2	0.4%
Natural Gas Stocks-Working Gas Underground Storage (Bcf)	1,707	1,698	9	0.5%
All Basin Drilled But Uncompleted Wells (DUC-Last Quarter)	5,238	5,238	0	-

*Source—Energy Information Administration (EIA), Bloomberg LP

*Source—Baker Hughes North America Rotary Rig Count & Enverus M&A Database

COMMODITY FUTURES - MONDAY'S MARKET CLOSE

	Current	1-Month Change	3-Month Change	6-Month Change	Year Ago Change
WTI					
Prompt	\$69.11	-1.59 [-2.25%]	-0.13 [-0.19%]	-1.26 [-1.79%]	-12.84 [-15.67%]
Bal25	\$67.47	-1.82 [-2.62%]	-0.25 [-0.37%]	-2.52 [-3.60%]	-12.15 [-15.25%]
Cal26	\$64.65	-1.64 [-2.47%]	-0.63 [-0.96%]	-3.33 [-4.90%]	-9.26 [-12.53%]
Cal27	\$63.41	-1.23 [-1.90%]	-0.48 [-0.75%]	-2.97 [-4.48%]	-6.31 [-9.06%]
Cal28	\$62.80	-0.90 [-1.41%]	-0.24 [-0.38%]	-2.68 [-4.10%]	-4.19 [-6.26%]
Cal29	\$62.35	-0.63 [-0.99%]	-0.10 [-0.15%]	-2.68 [-4.12%]	-2.93 [-4.49%]
Brent					
Prompt	\$73.00	-1.78 [-2.38%]	+0.37 [0.51%]	-0.90 [-1.22%]	-13.75 [-15.85%]
Bal25	\$71.13	-1.97 [-2.70%]	-0.12 [-0.17%]	-2.42 [-3.30%]	-13.14 [-15.59%]
Cal26	\$68.41	-1.74 [-2.48%]	-0.74 [-1.07%]	-3.62 [-5.03%]	-10.36 [-13.16%]
Cal27	\$67.42	-1.29 [-1.87%]	-0.68 [-1.00%]	-3.49 [-4.92%]	-7.47 [-9.97%]
Cal28	\$67.20	-0.92 [-1.35%]	-0.42 [-0.63%]	-3.14 [-4.47%]	-5.19 [-7.17%]
Cal29	\$67.17	-0.59 [-0.88%]	-0.22 [-0.32%]	-2.85 [-4.08%]	-3.70 [-5.22%]
Henry Hub					
Prompt	\$3.91	-0.08 [-2.00%]	+0.26 [7.06%]	+1.30 [49.79%]	+2.30 [142.35%]
Bal25	\$4.40	+0.11 [2.50%]	+0.99 [28.88%]	+1.48 [50.76%]	+2.02 [84.72%]
Cal26	\$4.39	+0.22 [5.16%]	+0.54 [14.13%]	+1.07 [32.27%]	+0.98 [28.64%]
Cal27	\$3.87	+0.13 [3.42%]	+0.09 [2.36%]	+0.29 [8.02%]	+0.13 [3.57%]
Cal28	\$3.64	+0.06 [1.65%]	-0.05 [-1.38%]	+0.06 [1.61%]	-0.14 [-3.61%]
Cal29	\$3.52	+0.05 [1.52%]	0.00 [0.01%]	+0.05 [1.31%]	-0.19 [-5.23%]
Heating Oil					
Prompt	\$2.26	+0.20 [9.73%]	+0.27 [13.84%]	+0.22 [10.87%]	-0.54 [-19.71%]
Bal25	\$2.21	-0.03 [-1.52%]	+0.08 [3.85%]	+0.13 [6.40%]	-0.42 [-16.77%]
Cal26	\$2.17	-0.03 [-1.34%]	+0.06 [3.04%]	-0.05 [-2.39%]	-0.26 [-11.65%]
Cal27	\$2.14	-0.02 [-1.15%]	+0.04 [2.00%]	-0.03 [-1.50%]	-0.21 [-9.87%]
Cal28	\$2.12	-0.02 [-1.09%]	+0.04 [2.02%]	-0.01 [-0.64%]	-0.18 [-8.42%]
RBOB					
Prompt	\$2.21	-0.18 [-7.34%]	+0.03 [1.38%]	+0.11 [5.22%]	-0.42 [-15.74%]
Bal25	\$2.09	-0.10 [-4.26%]	+0.02 [0.91%]	+0.05 [2.13%]	-0.43 [-16.42%]
Cal26	\$1.96	-0.05 [-2.46%]	+0.01 [0.57%]	-0.02 [-1.07%]	-0.33 [-13.30%]
Cal27	\$1.93	-0.04 [-1.91%]	+0.02 [0.85%]	-0.07 [-3.06%]	-0.25 [-10.48%]
Cal28	\$1.93	-0.03 [-1.26%]	+0.02 [1.13%]	-0.05 [-2.48%]	-0.20 [-8.46%]

*Source—Bloomberg LP

SELECTED INDUSTRY HEADLINES

Trump Pushes Energy Dominance Agenda in Meeting With US Oil Executives

U.S. President Donald Trump hosted top oil executives at the White House on Wednesday as he charted plans to boost domestic energy production in the midst of falling crude prices and looming trade wars.

EIA Forecasts Alaska Crude Oil Production Will Grow in 2026 For The First Time Since 2017

In our March 2025 Short-Term Energy Outlook, we forecast crude oil production in Alaska will increase by 16,000 barrels per day in 2026 to 438,000 b/d after remaining relatively flat in 2025.

Trump Says Countries That Buy Oil, Gas From Venezuela Must Pay 25% Tariff to US

President Donald Trump on Monday said the U.S. will impose a 25% tariff on imports from any country that purchases oil or gasoline from Venezuela, targeting the South American nation for what he called "purposefully and deceitfully" sending criminals into the United States.

USA Crude Oil Inventories Rise Week on Week

U.S. commercial crude oil inventories, excluding those in the Strategic Petroleum Reserve, increased by 1.7 million barrels from the week ending March 7 to the week ending March 14, the U.S. Energy Information Administration highlighted in its latest weekly petroleum status report.

OPEC+ Likely to Proceed With Planned May Oil Output Hike, Sources Say

OPEC+ will likely stick to its plan to raise oil output for a second consecutive month in May, four sources told Reuters, amid steady oil prices and plans to force some members to reduce pumping to compensate for past overproduction.

Oil Rises 1% as Trump Plans Tariff on Countries That Buy Venezuelan Oil, Gas

Oil prices gained 1% on Monday as U.S. President Donald Trump said he will impose a 25% tariff on countries that buy oil and gas from Venezuela.

US Oil and Gas Rigs Rise For First Time in Three Weeks, Baker Hughes Says

U.S. energy firms this week added oil and natural gas rigs for the first time in three weeks, energy services firm Baker Hughes said in its closely followed report on Friday.

Improving Gas Macro Heightens M&A Interest in Haynesville, Midcon (LOGIN REQUIRED)

Oil-focused M&A, particularly around the Permian Basin, has dominated headlines for years. But buyer interest is growing for natural gas assets, according to M&A experts.

Volatility, Volume Tapering Off for April Natural Gas Futures as May Testing Above \$4 (LOGIN REQUIRED)

April natural gas futures remained rangebound slightly below \$4.00/MMBtu Tuesday morning, as traders awaited potential volatility later in the week.

DOE Gives Conditional Export Approval to Louisiana LNG Project

The Department of Energy has issued its second conditional approval for gas exports in as many months under President Donald Trump — this time for the contentious CP2 terminal in Louisiana.

Trump Signs New Law To Block US Methane Fee

The move by the US Congress and the White House is part of a broader effort to overturn the Inflation Reduction Act passed in 2022.

SELECTED RECENT TRANSACTIONS

Validus Pays \$850 Million for 89 Energy as Midcon M&A Heats Up

Elliott Investment Management-backed Validus Energy continues to roll up Midcontinent assets, closing an \$850 million acquisition of 89 Energy III.

Elk Range Royalties Closes \$905 Million Acquisition of DJ Basin Assets

Elk Range Royalties has announced a landmark acquisition of a significant mineral and royalty position spanning approximately 250,000 net royalty acres in the DJ Basin from affiliates of Occidental Petroleum.

Citadel Buys Haynesville E&P Paloma Natural Gas for \$1.2 Billion

Hedge fund giant Citadel has acquired Haynesville Shale E&P Paloma Natural Gas for \$1.2 billion, Hart Energy has learned.

Evolution Petroleum Announces Acquisition of Non-Operated Oil and Natural Gas Assets

Evolution Petroleum Corporation announced that it has entered into a definitive agreement to acquire non-operated oil and natural gas assets in New Mexico, Texas, and Louisiana.

Ring Energy Bolts On Lime Rock's Central Basin Assets for \$100 Million

Ring Energy Inc. is bolting on Lime Rock Resources IV LP's Central Basin Platform assets for \$100 million, the E&P announced Feb. 26.

Civitas Makes \$300 Million Midland Bolt-On, Plans to Sell D-J Assets

Civitas Resources is buying Midland Basin locations in a \$300 million bolt-on acquisition from an undisclosed seller, deepening its Permian inventory by about a year.

Tokyo Gas Announces Sale of Eagle Ford Shale Gas Assets

Tokyo Gas Co. has announced that its wholly-owned subsidiary, Tokyo Gas America, through its subsidiary TG Eagle Ford Resources LP, signed Heads of Agreement with Shizuoka Gas Co, to sell its Eagle Ford shale gas assets.

ConocoPhillips to Sell Interests in Ursa and Europa Fields to Shell for \$735 Million

ConocoPhillips said on Friday it would sell its interests in the Ursa and Europa Fields to Shell for \$735 million, as part of the shale producer's plan to streamline its portfolio.

Occidental to Divest Some Upstream Assets for \$1.2 Billion

Occidental Petroleum said that it had struck two deals in the current quarter to divest some upstream assets to undisclosed buyers for a total of \$1.2 billion, although its current-quarter production forecast fell short of expectations.

Diamondback Energy to Expand in Permian Basin With \$4.08 Billion Deal

Diamondback Energy said on Tuesday it would buy certain units of EnCap Investments-backed energy producer Double Eagle for \$4.08 billion in cash and stock, expanding its presence in the oil-rich U.S. Permian basin.

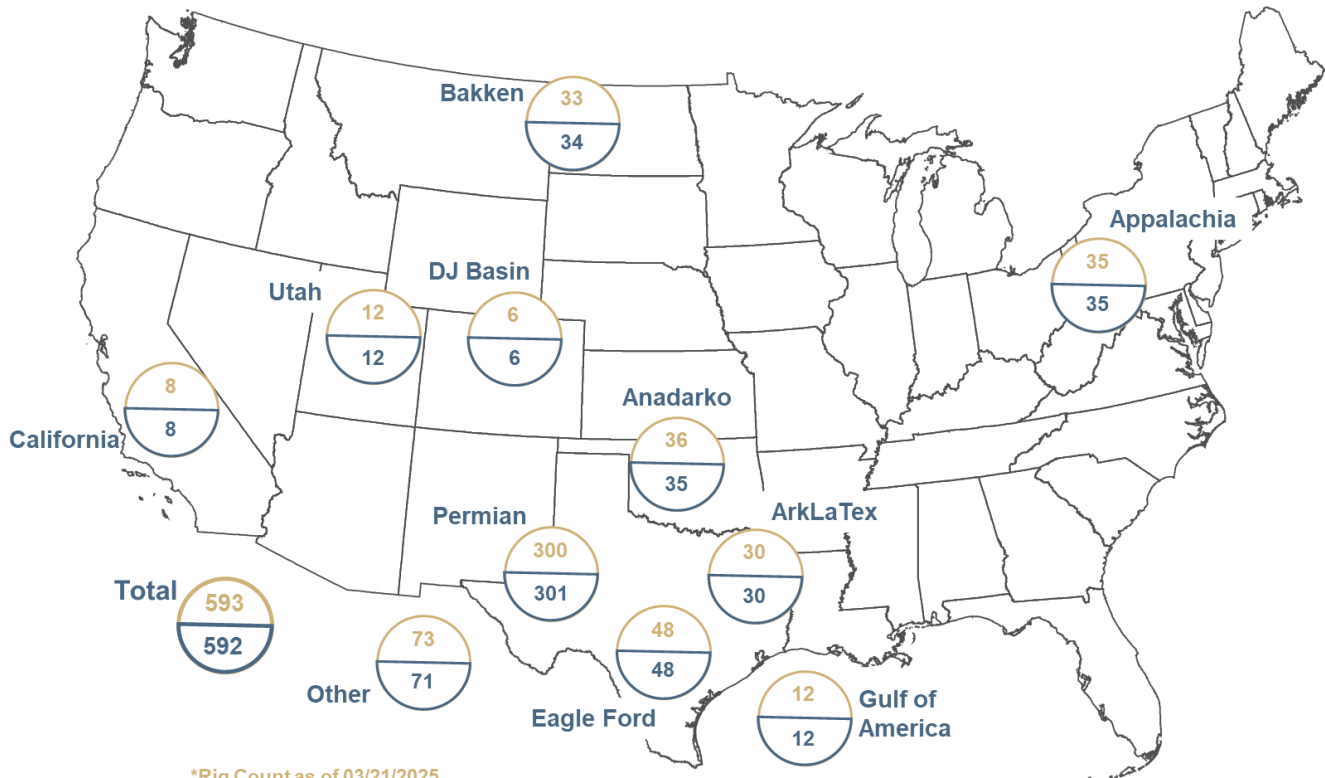
Bayswater E&P to Sell DJ Basin Assets for \$603 Million

Bayswater Exploration and Production, a Denver-based oil and natural gas development company, has entered into an agreement to sell assets in the Denver Julesburg Basin to Prairie Operating Company in a cash and stock transaction valued at approximately \$603 million.

ConocoPhillips Sells \$600 Million in Noncore Permian Basin Assets

Following its \$22.5 billion deal to buy Marathon Oil, ConocoPhillips is targeting \$2 billion in asset sales—a goal a company executive said would largely be achieved this year.

RIG ACTIVITY BY US REGION

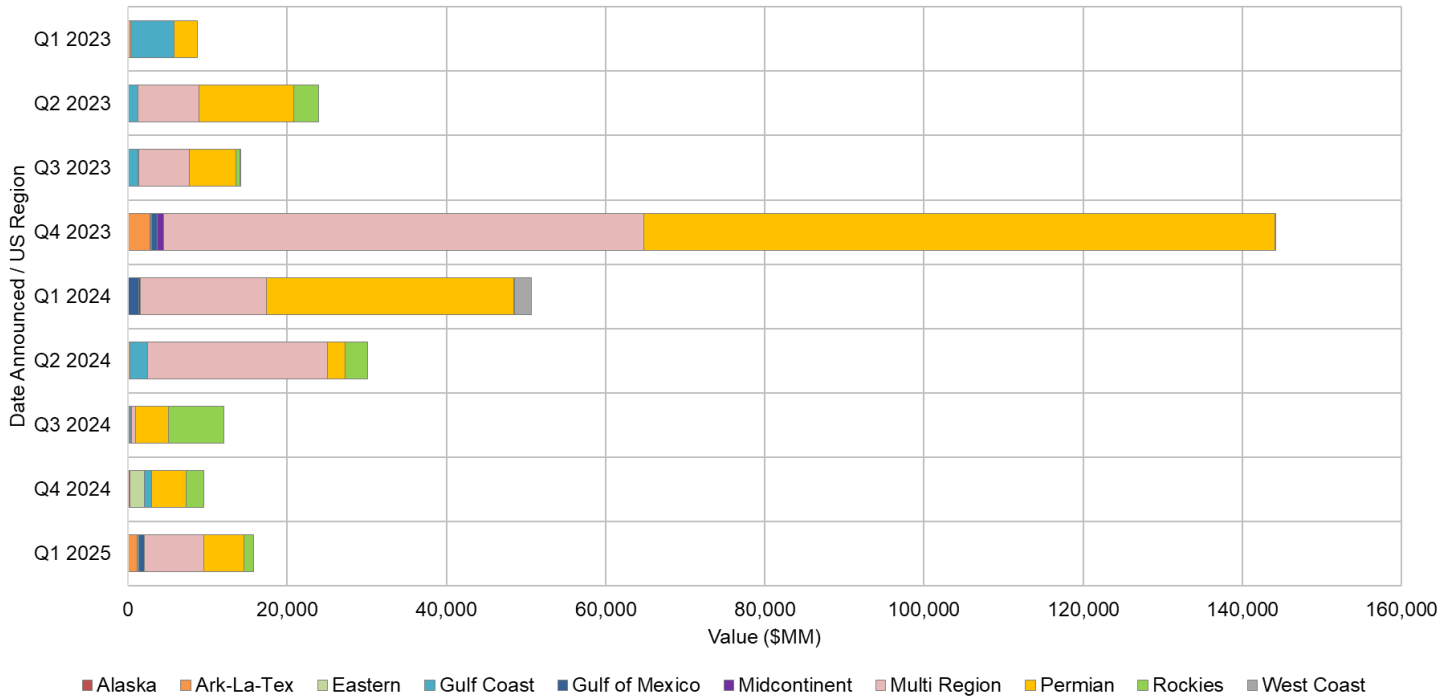


*Rig Count as of 03/21/2025
*Rig Count as of 03/14/2025

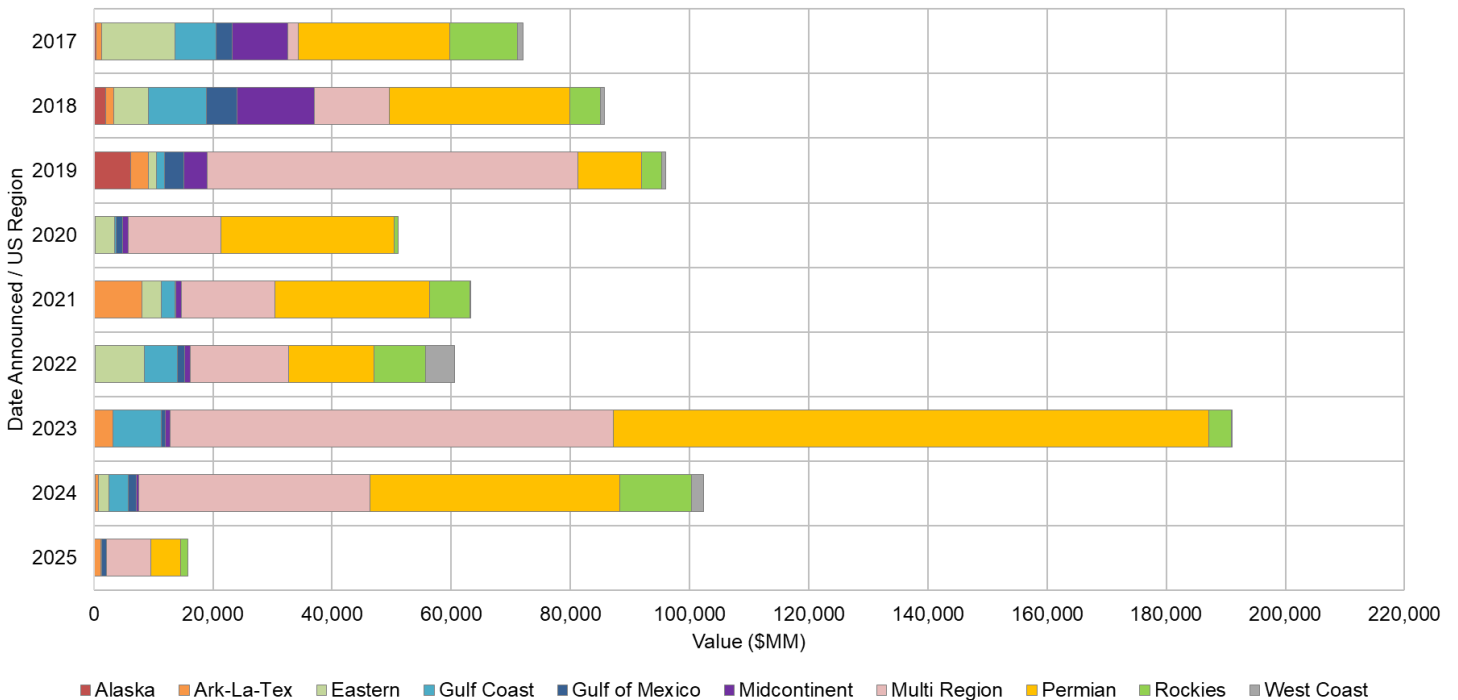
	Week Ending 03/21/2025		Week Ending 03/14/2025		Week Ending 03/22/2024
U.S. Rig Breakouts	Count	+/-	Count	+/-	Count
Oil	486	(1)	487	(23)	509
Gas	102	2	100	(10)	112
Not Specified	5	0	5	2	3
Directional	49	(1)	50	(7)	56
Horizontal	532	2	530	(24)	556
Vertical	12	0	12	0	12
Land (Inc Others)	576	0	576	(25)	601
Inland Waters	3	1	2	3	0
Offshore	14	0	14	(9)	23
US Total	593	1	592	(31)	624

*Source—Baker Hughes North America Rotary Rig Count

DEAL VALUE BY US REGION (BY QUARTER)

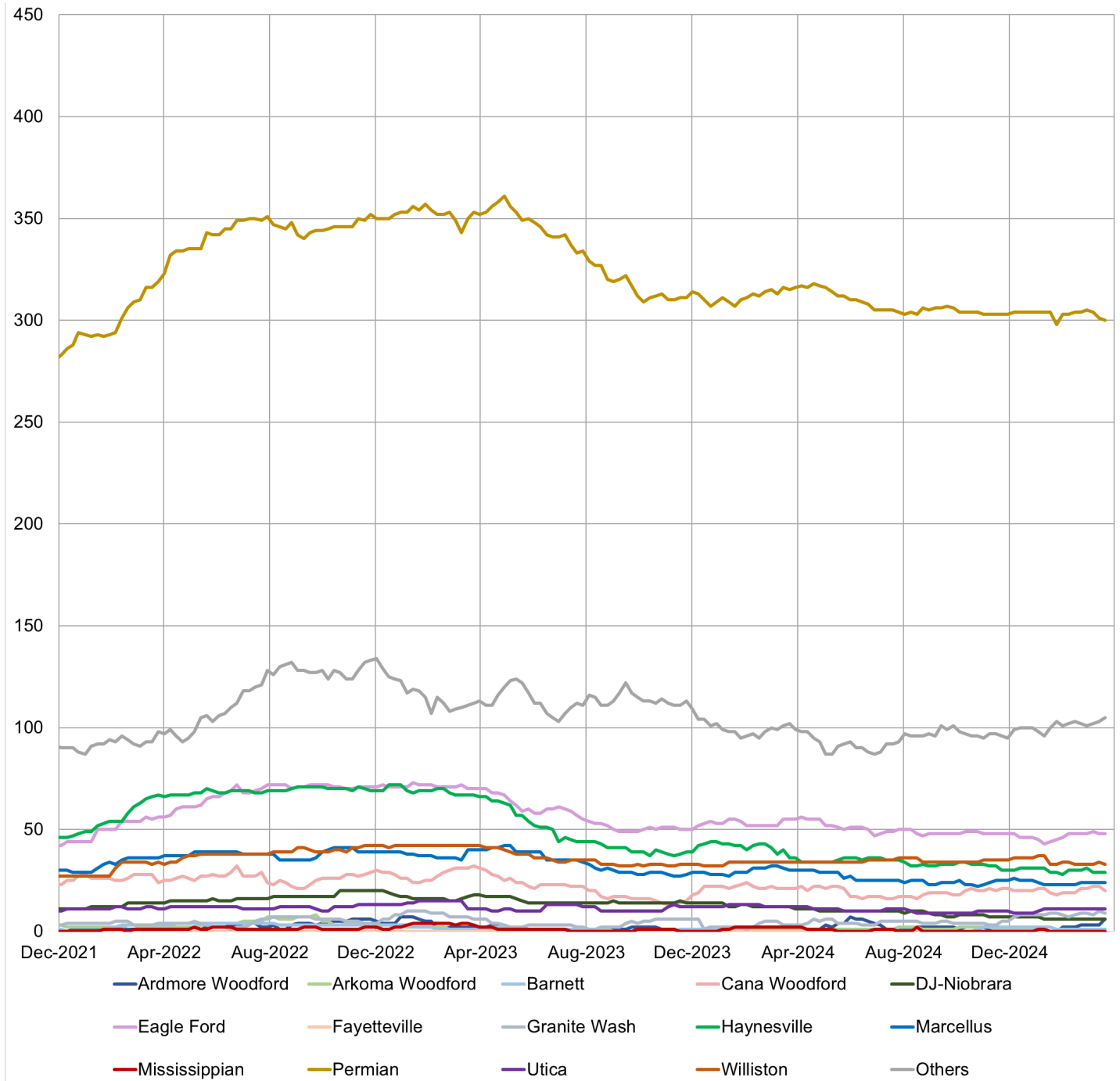


DEAL VALUE BY US REGION (BY YEAR)



*Source—Enverus M&A Data- (Charts exclude terminated deals)

RIG ACTIVITY BY US REGION



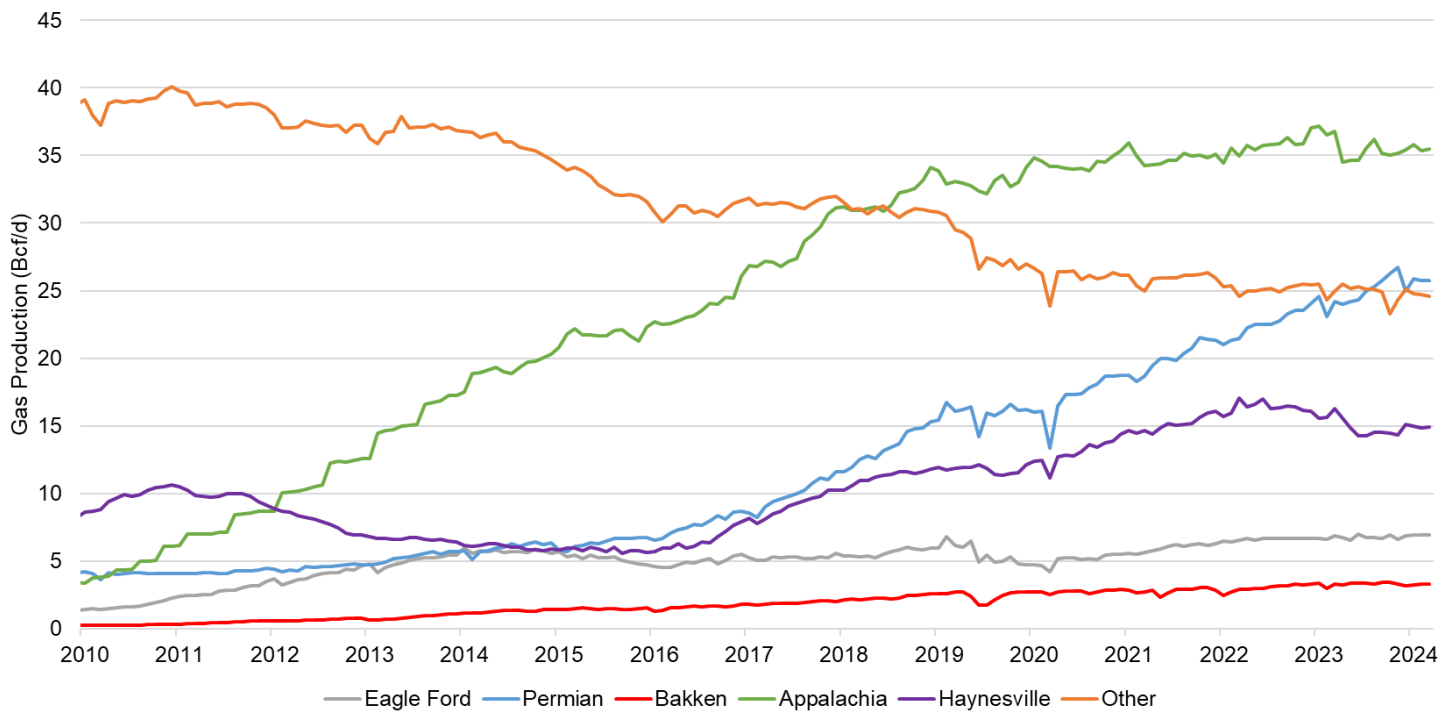
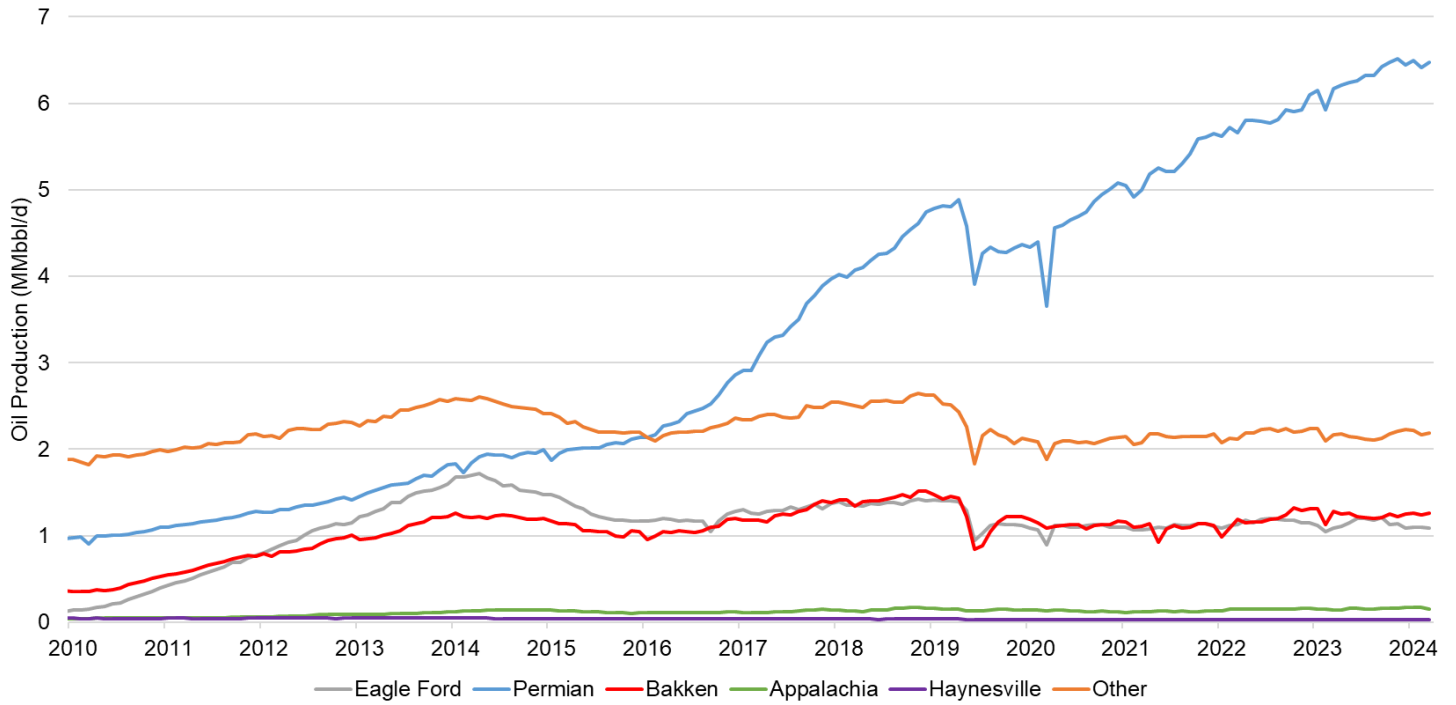
*Source—Baker Hughes North America Rotary Rig Count

US DAILY CRUDE (MMbbl) & DRY NATURAL GAS PRODUCTION (MMcf)



*Source—Energy Information Administration (EIA)

HISTORICAL PRODUCTION OF SELECTED US SHALE REGIONS



*Source—Energy Information Administration (EIA)

UPCOMING EVENTS

March 2025

SPE GCS - Mega Mergers Panel	March 26	Houston, TX
U.S. Men's Clay Court Championship	March 29 - April 6	Houston, TX

April 2025

Texas Bankruptcy Bench/Bar Conference	April 2	Houston, TX
SPE GCS - New Ventures Panel	April 16	Houston, TX
Quorum Qnections 25	April 22-24	Las Vegas, NV
SIGMA Spring Conference	April 22-24	Scottsdale, AZ
World Oilman's Poker Tournament	April 23-25	Las Vegas, NV
Hunger Free Golf Classic	April 25	Houston, TX
World Oilman's Tennis Tournament	April 30 - May 3	Houston, TX

May 2025

Quorum Qnections Barcelona	May 13-15	Barcelona, Spain
ASA Energy Valuation Conference	May 15	Houston, TX
North American Petroleum Accounting Conference	May 15-16	Dallas, TX
Texas Dreamin' 2025	May 29-30	Austin, TX

*Denotes an Opportune Sponsored Event

ABOUT RALPH E. DAVIS ASSOCIATES


Ralph E. Davis Associates LLC (RED) is an industry-leading petroleum engineering and geosciences firm committed to satisfying the individual needs of clients. We accomplish this by holding ourselves to the highest standards of integrity and professionalism to deliver honest, direct and actionable insights to help clients achieve their strategic objectives. We distinguish ourselves by combining reservoir engineering, geoscience evaluation techniques and advanced data analytics with economic analyses to provide our clients with individual, customized solutions.

Banks, bondholders, private equity firms, financial institutions and law firms around the world trust in RED's diverse services and unrivaled upstream oil and gas expertise to deliver comprehensive solutions that help clients make informed decisions. We add value to every engagement by employing a team approach, leveraging Opportune LLP's experienced bench of experts in transactional due diligence, tax advisory, investment banking, restructuring and valuation.


We offer technical and economic analyses to deliver our clients a complete, independent, accurate and detailed assessment of the value of their assets. We apply a robust set of technical capabilities to assist our clients. Our capabilities include:

- Reservoir engineering and geosciences
- Economic forecasting and reporting
- Data analytics and geospatial analysis


KEY CONTACTS



Steve Hendrickson is the President of Ralph E. Davis Associates, an Opportune LLP company. Steve has over 35 years of professional leadership experience in the energy industry with a proven track record of adding value through acquisitions, development and operations. Steve is a licensed professional engineer in the state of Texas, and holds an M.S. in Finance from the University of Houston and a B.S. in Chemical Engineering from The University of Texas at Austin. He recently served as a board member of the Society of Petroleum Evaluation Engineers (SPEE) and is a registered FINRA representative.



John Beaird is Vice President of Ralph E. Davis Associates, an Opportune LLP company. John has 39 years of oil and gas management, reservoir engineering, and petroleum economics evaluation experience. Recent relevant experience includes the Permian, Western Gulf, Tx-La-Miss Salt, Mid-Continent, Denver-Julesburg, Wind River, Williston Basin, and Appalachian Basins. John is a registered Petroleum Engineer in the State of Texas and holds a B.S. in Petroleum Engineering from Louisiana Tech University. He is also an active member of the Society of Petroleum Evaluation Engineers (SPEE).



David Edwards is a Petroleum Engineer at Ralph E. Davis Associates, an Opportune LLP company. David has over four years of reserves engineering experience in conventional and unconventional reservoirs. Before RED, David was a Petroleum Engineer at a lower middle market A&D advisory firm where he handled the technical processes for marketed assets. He began his career with an operator in Dallas, where he contributed to its engineering, operations, and A&D teams. David holds an M.B.A. from The University of Texas Permian Basin and a B.S. in Petroleum Engineering from The University of Oklahoma.

