WTI Crude Oil Outlook

Blackbeard Data Forecast Ensemble Model — 5-Year Horizon

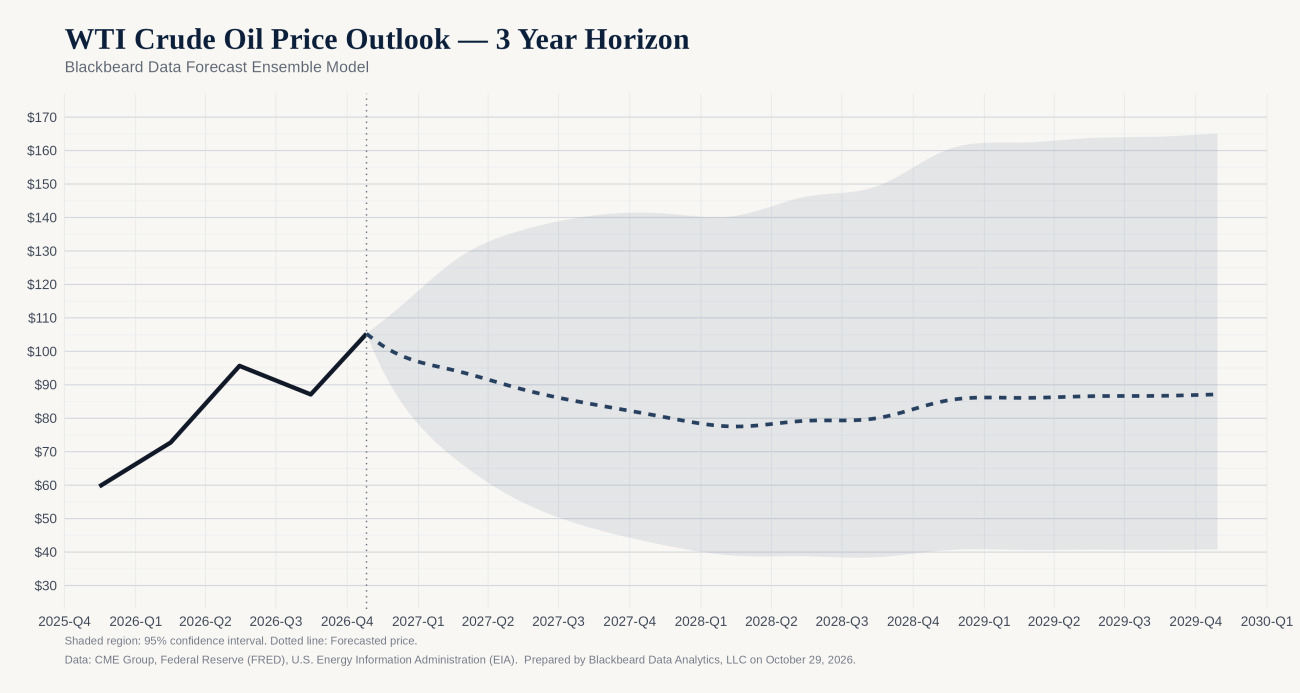
EXECUTIVE SUMMARY

WTI spot was $105.25 on October 26, 2026.

A war premium dominates. The Strait of Hormuz, normally a fifth of world energy supply, has been disrupted since US–Iran fighting began on February 28, 2026; flows ran near 60% of normal in late October, the worst month on record for shipping attacks there. OPEC+ left November quotas unchanged on October 4 and meets again on November 1, with most members producing below target. Ukrainian strikes on Russian refineries resumed on October 15.

US balances are tight: commercial crude stocks fell 1.9 million barrels to 410.6 million in the week to October 23. The futures curve is steeply backwardated – December 2026 WTI near $102 against $97 for February 2027 – and the forecast follows it down, troughing at $77.53 in 2028Q1 before drifting up. The EIA's October 6 Outlook sees Brent averaging $84 in 2027, and the IEA on October 14 expects demand to recover by 2 million barrels a day in 2027.

Risks run both ways: a Hormuz reopening or durable ceasefire would strip out the premium quickly, while renewed escalation would lift prices further.



TODAY (SPOT)	3 MONTHS FROM NOW	12 MONTHS FROM NOW	24 MONTHS FROM NOW	60 MONTHS FROM NOW
$105.25	$94.39	$80.33	$85.35	$92.95
Spot, Oct 26, 2026	-10.3%	-23.7%	-18.9%	-11.7%

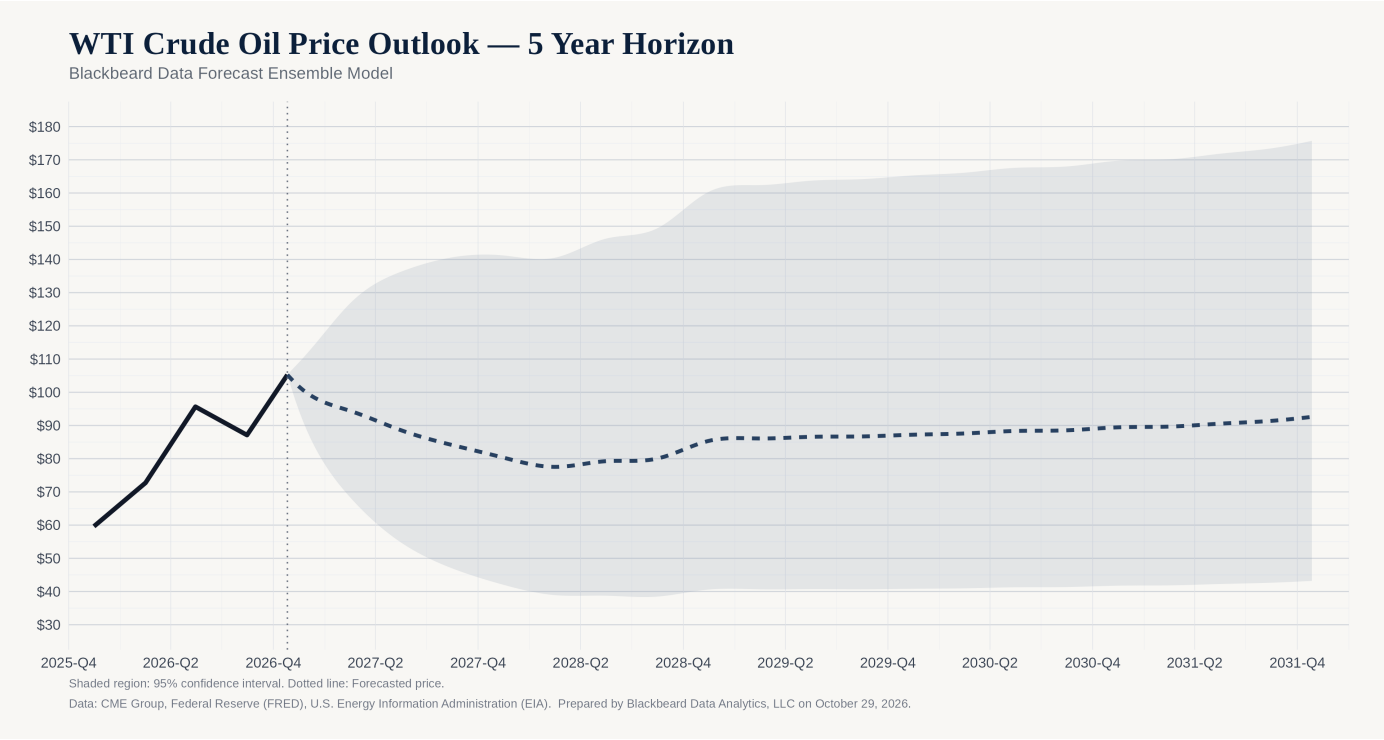
Quarterly Forecast Table

Average forecast price for each quarter, with high / low ranges of about one standard deviation (68% of past outcomes) and two standard deviations (95%). Prices in nominal USD. Spot: $105.25 WTI (Oct 26, 2026). Change vs. spot.

Quarter	Forecast avg	Change	1 Std Dev. H/L	2 Std Dev. H/L
2026 Q4	$101.81	–$3.44	$104.51 / $99.92	$112.04 / $91.71
2027 Q1	$94.39	–$10.86	$108.73 / $85.86	$125.76 / $71.97
2027 Q2	$88.67	–$16.58	$108.40 / $79.23	$138.52 / $49.55
2027 Q3	$84.15	–$21.10	$112.40 / $73.82	$132.92 / $46.62
2027 Q4	$80.33	–$24.92	$108.96 / $68.45	$140.76 / $44.21
2028 Q1	$77.53	–$27.72	$105.16 / $64.78	$146.44 / $38.79
2028 Q2	$79.24	–$26.01	$107.48 / $63.72	$149.66 / $39.65
2028 Q3	$80.01	–$25.24	$108.53 / $64.34	$151.13 / $40.03
2028 Q4	$85.35	–$19.90	$115.76 / $59.68	$161.20 / $41.01
2029 Q1	$86.09	–$19.16	$116.76 / $59.37	$162.60 / $41.36
2029 Q2	$86.58	–$18.67	$117.43 / $57.70	$163.52 / $41.60
2029 Q3	$86.70	–$18.55	$117.59 / $55.45	$163.75 / $41.66
2029 Q4	$87.22	–$18.03	$118.30 / $55.79	$164.74 / $41.91
2030 Q1	$87.60	–$17.65	$118.82 / $56.03	$165.46 / $42.09
2030 Q2	$88.34	–$16.91	$119.82 / $56.50	$166.86 / $42.45
2030 Q3	$88.54	–$16.71	$120.09 / $56.63	$167.23 / $42.54
2030 Q4	$89.44	–$15.81	$121.31 / $57.20	$168.93 / $42.98
2031 Q1	$89.66	–$15.59	$121.62 / $57.35	$169.35 / $43.08
2031 Q2	$90.53	–$14.72	$122.80 / $57.90	$171.00 / $42.66
2031 Q3	$91.38	–$13.87	$123.95 / $58.45	$172.60 / $38.95
2031 Q4	$92.95	–$12.30	$126.08 / $59.45	$175.57 / $35.46

Inflation assumption: 3.6% annually (latest 12-month CPI inflation). Ranges are the central 68% and 95% of the blend's past out-of-sample forecast errors.

5-Year Outlook



Methodology

Blackbeard Data Analytics has been forecasting crude oil prices for 13 years. Our current ensemble framework combines four structurally distinct forecasting models: a risk-adjusted futures model that corrects systematic bias in the CME term structure using Federal Reserve capacity utilization data; a Bayesian vector autoregression that captures feedback dynamics between prices, inventories, industrial activity, and production; a simplified structural equilibrium model smoothed via a Kalman filter; and the raw futures curve itself as a market-consensus anchor.

The system's edge comes not from any single model, but from the diversity of errors across models. Futures-based models overshoot during contango. Structural models mean-revert too aggressively in the short term. The Bayesian model captures macro regime shifts that futures markets underweight. When combined, these opposing biases tend to partially cancel, which is why the models are blended rather than used alone.

The ensemble is evaluated against a no-change benchmark and the futures strip across several distinct market regimes, including the post-financial-crisis recovery, the shale revolution, and the COVID era.

All inputs are sourced from public Federal Reserve databases, CME Group futures markets, and EIA petroleum statistics. Forecasts are produced monthly. The model does not attempt to forecast geopolitical events, which historically produce price spikes but not long-term structural changes.

Appendix: Data and Model Details

Data used for this forecast and the model's track record.

Input	As of
WTI spot price	$105.25, Oct 26, 2026 (FRED daily WTI spot)
Futures curve (CME)	Oct 26, 2026
Monthly model data through	September 2026
CPI (latest month)	September 2026
Capacity utilization (latest month)	September 2026
EIA weekly data (latest week)	Oct 16, 2026
Inflation assumption	3.6% a year
Previous forecast compared	none found

Why you should trust this Forecast

This metric compares the average error (RMSE, as a percentage of price) of our forecast model against a baseline "no-change" model, scored on identical periods from January 2015 to the present. It also compares our model against forecasting with the futures curve alone.

Horizon	Forecasts scored	Model error	No-change error	Blackbeard Model vs. no-change	Futures error	Blackbeard Model vs. futures
3 months	138	15.7%	17.0%	8% better	15.6%	about the same
6 months	135	22.0%	24.1%	9% better	22.0%	about the same
12 months	129	28.0%	31.6%	12% better	28.4%	2% better
18 months	123	26.4%	34.7%	24% better	30.2%	13% better
24 months	117	25.0%	39.6%	37% better	32.5%	23% better
36 months	105	23.3%	35.8%	35% better	32.3%	28% better
48 months	93	26.3%	32.2%	18% better	39.8%	34% better
60 months	81	30.4%	33.9%	10% better	47.9%	37% better

Past performance does not guarantee future accuracy.

Interested in receiving our monthly WTI forecast?

Blackbeard Data Analytics offers institutional and corporate subscriptions to our monthly crude oil forecast report, including full forecast tables, confidence intervals, model diagnostics, and custom horizon analysis.

For subscription inquiries, partnership opportunities, or to schedule a methodology briefing:

512-335-4552 · blackbearddata.com

About the Team

The forecast model was built using 30 research papers from institutions around the world. The modelling team is led by McCartney Taylor, MSc., Petroleum Engineer and Data Scientist. For questions about the model architecture or error functions, contact him directly.

Data Sources. CME Group: WTI futures term structure, settlement prices, and open interest. **Federal Reserve (FRED):** Industrial capacity utilization, CPI indices, and macroeconomic time series. **EIA:** Weekly petroleum status reports, crude inventory levels, and production statistics.

Market Commentary Sources.

1. Al Jazeera, "Iran's calculations as US escalation looms: Trust, midterms, Hormuz", October 27, 2026 https://www.aljazeera.com/news/2026/10/27/irans-calculations-as-us-escalation-looms-trust-midterms-hormuz
2. The Irish Times (Reuters), "Oil slips 1% as Iran diplomacy eases supply fears", October 27, 2026 https://www.irishtimes.com/business/markets/2026/10/27/oil-slips-1-as-iran-diplomacy-eases-supply-fears/
3. The National, "Opec+ keeps oil output targets unchanged for November", October 4, 2026 https://www.thenationalnews.com/business/energy/2026/10/04/opec-keeps-oil-output-targets-unchanged-for-november/
4. Military.com, "Ukraine Resumes Oil Refinery Strikes as Trump's Russia Diesel Deal Faces Test", October 15, 2026 https://www.military.com/ukraine-resumes-oil-refinery-strikes-as-trumps-russia-diesel-deal-faces-test
5. Kitco (Reuters), "US crude and distillate inventories fall, gasoline stocks rise, EIA says", October 28, 2026 http://www.kitco.com/news/off-the-wire/2026-10-28/us-crude-and-distillate-inventories-fall-gasoline-stocks-rise-eia-says
6. Commodity Board, "Crude Oil Market Outlook: Backwardation Deepens as War Risk Persists", October 26, 2026 https://commodity-board.com/crude-oil-eases-from-war-highs-but-futures-curve-signals-tight-years-ahead
7. U.S. Energy Information Administration, "Short-Term Energy Outlook", October 6, 2026 https://www.eia.gov/outlooks/steo/
8. International Energy Agency, "Oil Market Report - October 2026", October 14, 2026 https://www.iea.org/reports/oil-market-report-october-2026

Important Disclosure. This report is provided for informational and research purposes only and does not constitute investment advice, a recommendation, or a solicitation to buy or sell any financial instrument, commodity, or derivative. The forecasts contained herein are probabilistic estimates subject to substantial uncertainty and should not be relied upon as the sole basis for any investment, hedging, or business decision. Past model performance does not guarantee future accuracy. Blackbeard Data Analytics LLC makes no warranty, express or implied, regarding the completeness or reliability of the information presented. Recipients should consult their own financial, legal, and tax advisors before acting on any information in this report.

Report template version 3.0