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Diesel Price Forecast

A SAMSARA SIGNALS REPORT

Pairing EIA's Short-Term Energy Outlook framework with weekly transactional fuel data from hundreds of thousands of fleet fueling events from the Samsara Fuel Spend Index

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Executive Summary

As of April 21, 2026, diesel stands at $5.22 per gallon — down from a peak of $5.49 on April 6, but still 66% above levels fifteen weeks ago. The two-week decline is misleading — driven by crude oil easingon the tenuous Hormuz ceasefire, not by improving supply. Refinery utilization fell to 89.6% in the latest weekly print, distillate inventories remain 6% below the five-year average, and 573,000 barrels per day of complex refining capacity have left the U.S. market with no announced replacement on any relevant planning horizon. The structural pressure has not eased. A crude reversal or geopolitical re-escalation would be expected to snap prices back hard.

This report pairs the U.S. Energy Information Administration (EIA)'s Short-Term Energy Outlook (STEO), the structural framework for understanding refinery capacity, inventory, and crack spread dynamics, with the Samsara Fuel Spend Index, which draws on real-time transactional fuel data from hundreds of thousands of weekly fleet fueling events. The STEO maps the geology; Samsara reads the seismograph. Together, they reveal both why diesel repriced and how fast that repricing expressed in actual fleet costs, often weeks before the STEO's monthly publication cycle could reflect it.

For fleet operators, the numbers are stark. At current diesel prices, a 1,000-truck fleet faces an annualized incremental fuel cost of $16.4 million compared to December levels. Even in a prolonged ceasefire or post-conflict scenario, diesel is unlikely to fall below $4.30 because the refining capacity gap is permanent. The carriers with real-time fuel intelligence, efficiency optimization, and surcharge calibration tools are building a structural cost advantage. Those without them are watching margins compress toward acquisition territory.

The Capacity Problem at a Glance

The current diesel price environment is built on a foundation of structural supply constraints. The table below summarizes the key metrics driving the market as of April 21, 2026.

Metric	Value	Source
Brent crude	$94.80/bbl (Apr 21)	Market spot
WTI crude	$86.27/bbl (Apr 21)	Market spot
Refinery capacity lost since Jan 2025	573 kbd (3.1% of US total)	EIA refinery data
Complex capacity lost (NCI > 10)	309 kbd	EIA refinery data
PADD 5 capacity reduction	17% of state-level capacity	EIA refinery data
Distillate inventory	114.7M bbl (wk ending Apr 10)	EIA WPSR
Distillate vs 5-year average	~6% below	EIA WPSR
Refinery utilization	89.6% (down from 92.1%)	EIA WPSR

Samsara Weekly Fuel Data: The Complete Record

All figures below are derived from the Samsara Fuel Spend Index's transactional fuel data pipeline, which captures the gross cost per gallon actually charged to fleet fuel cards at the point of sale, aggregated across hundreds of thousands of fueling events per week.

Week	Diesel ($/gal)	Gasoline ($/gal)	Spread	Diesel WoW	vs Dec 29
2025-12-29	$3.30	$2.95	$0.35	-0.7%	Baseline
2026-01-05	$3.28	$2.93	$0.35	-0.6%	-0.6%
2026-01-12	$3.31	$2.96	$0.36	+1.1%	+0.5%
2026-01-19	$3.42	$2.98	$0.45	+3.3%	+3.8%
2026-01-26	$3.52	$3.03	$0.49	+2.9%	+6.8%
2026-02-02	$3.56	$3.03	$0.52	+1.0%	+7.8%
2026-02-09	$3.57	$3.06	$0.50	+0.2%	+8.1%
2026-02-16	$3.61	$3.05	$0.57	+1.3%	+9.4%
2026-02-23	$3.72	$3.12	$0.60	+2.9%	+12.7%
2026-03-02	$4.24	$3.44	$0.79	+14.1%	+28.5%
2026-03-09	$4.78	$3.82	$0.97	+12.8%	+44.9%
2026-03-16	$5.02	$4.07	$0.94	+4.9%	+52.1%
2026-03-23	$5.16	$4.16	$1.00	+2.9%	+56.4%
2026-03-30	$5.28	$4.27	$1.01	+2.4%	+60.1%
2026-04-06	$5.49	$4.34	$1.15	+3.9%	+66.4%
2026-04-13	$5.33	$4.26	$1.07	-2.9%	+61.6%
2026-04-20	$5.22	$4.27	$0.95	-2.2%	+58.1%

Four phases are visible. A slow build through January and February (+0.2% to +3.3% week over week). A violent repricing in the first two weeks of March (+14.1% and +12.8% WoW — the two largest single-week moves in the dataset). A decelerating climb through late March and early April, peaking at $5.49 on April 6. And a two-week retreat: -2.9%, then -2.2%.

The April retreat is doing something the earlier correction hints had not. Diesel is falling faster than gasoline. The week of April 13, diesel fell 2.9% while gasoline fell 1.7%. The week of April 20, diesel fell 2.2% while gasoline was essentially flat (+0.1%). The spread compressed from $1.15 to $0.95 over the two weeks — a $0.20 narrowing. This is diesel-specific relief on the price, not a crude correction bleeding into both products evenly (we unpack the structural reasons in "The Diesel-Gasoline Divergence" section below).

How STEO and Samsara Fuel Spend Index Complement Each Other

The STEO is a monthly forecast — it projects forward based on structural parameters and the macroeconomic outlook available at publication time. It is not designed to be a real-time price tracker, and it would be unfair to evaluate it as one. EIA also publishes weekly gasoline and diesel price estimates based on a survey of posted retail prices at approximately 400 stations. These are closer to current conditions but are survey-based, not transactional.

Samsara's data is different in kind. It reflects what fleets actually paid per gallon in a given week — transactional, not estimated. STEO provides the structural model (what drives prices). The Samsara Fuel Spend Index provides the real-time signal (how fast those drivers are expressing in the market, and how fast the pressure is releasing). Three instruments (EIA's monthly STEO forecast, EIA's weekly posted-price survey, and Samsara's transactional fuel data); three measurement methods; three different objectives.

The Decision Window

During the March surge, Samsara's transactional data provided a multi-week head start on the price signal compared to the STEO's monthly publication cycle. We call this the lead-time alpha — the decision-making advantage that weekly transactional data provides over a monthly forecast cadence during rapid market shifts.

Between the March 9 STEO publication ($3.55) and the April 7 STEO update, Samsara's transactional data showed the market averaging $5.14 per gallon — a $1.59 per gallon information gap. For a 1,000-truck fleet consuming approximately 164,000 gallons per week, that four-week information gap represents approximately $1.0 million in decision-making value — not savings on fuel itself, but the difference between acting on real-time information and acting on the next monthly forecast update.

The lead-time alpha cuts both ways. The April retreat is visible in Samsara's data in real time. The May STEO will absorb it when published; in the interim, fleet operators using Samsara data are seeing the top form before the monthly cycle confirms it.

Waterfall Decomposition: Explaining the Price

Using STEO's own structural parameters, we can decompose the difference between the March STEO projection ($3.55) and the Samsara actual ($5.22, week of April 20) into its component drivers. This is not a critique of the STEO — it is an application of the STEO's structural model to explain how rapidly changing conditions drove the market between publication cycles.

Component	$/gallon	Running Total	STEO Parameter
STEO March 2026 projection	$3.55	$3.55	Baseline forecast
+ Crude oil surge (Brent ~$68 to $95.75)	+$0.66	$4.21	STEO crude price input

+ Refining capacity gap (573 kbd lost)	+$0.34	$4.55	STEO capacity/utilization data
+ Distillate inventory premium	+$0.22	$4.77	STEO inventory framework
+ Hormuz feedstock risk premium	+$0.18	$4.95	Heavy sour import dependency
+ Regional concentration (PADD 5)	+$0.14	$5.09	STEO PADD-level data
+ Market momentum / speculative	+$0.13	$5.22	Not captured by STEO
Samsara actual (week of Apr 20)	$5.22		

Crude accounts for approximately 40% of the gap ($0.66 of $1.67). The remaining 60% ($1.01) comes from structural factors STEO correctly identifies — capacity loss, inventory tightness, feedstock risk — but that expressed faster in the market than a monthly forecast cycle could capture. Crude remains the anchor: even if it retreated to pre-surge levels tomorrow, diesel would not return to the $3 range because the structural factors persist.

Price Decomposition at $5.22

Using WTI at $86.25 per barrel (April 21) as the refiner's feedstock cost:

Component	$/gallon	% of Retail	Normal Range
Crude oil cost (WTI $86.25/bbl ÷ 42)	$2.05	39.3%	45–50%
Refining margin	$2.17	41.6%	15–20%
Distribution and marketing	$0.40	7.7%	10–15%
Federal + state taxes	$0.60	11.5%	15–20%
Total retail	$5.22	100%	—

The crude component has retreated meaningfully: WTI is down from $92.13 on April 14 to $86.25 on April 21, reducing the crude cost of diesel from $2.19 per gallon to $2.05 per gallon. That $0.14 per gallon crude relief alone accounts for more than half of the $0.27 per gallon retreat from the April 6 peak.

The refining margin remains at $2.17 per gallon — more than twice the normal range — and has compressed only modestly from the peak. The capacity gap is structural, it is not narrowing, and the April 10 utilization print (89.6%, down 2.5 percentage points week over week) says the supply side is not delivering relief. The crude retreat is easing the retail price; the structural refining premium is not.

The Diesel-Gasoline Divergence

The diesel-gasoline spread tells a story the headline price does not. The spread went from $0.35 on December 29 to a $1.15 peak on April 6 — a 3.3x expansion — and has now compressed to $0.95 over two weeks.

Period	Diesel Move	Gasoline Move	Interpretation
Cumulative Dec 29 – Apr 20	+58.1%	+44.6%	Diesel leads cumulatively
March surge (Mar 2–9)	+12.8% to +14.1% WoW	+10.4% to +10.8% WoW	Both repriced together on crude
Late March (Mar 16–30)	+2.4% to +4.9% WoW	+2.2% to +6.7% WoW	Tracked; gasoline briefly ahead
April retreat (Apr 13)	-2.9% WoW	-1.7% WoW	Diesel falls faster
April retreat (Apr 20)	-2.2% WoW	+0.1% WoW	Diesel falls alone

During the March surge, gasoline tracked diesel closely (74–84% of diesel's weekly rate). That is consistent with crude-driven repricing — both products rise when the feedstock rises. The April retreat is different. Gasoline softened one week and held flat the next. Diesel fell in both weeks, and faster.

The supply-side story does not explain this. EIA's April 16 WPSR reports refinery utilization at 89.6% for the week ending April 10, down 2.5 percentage points from 92.1% the week prior. Distillate inventories sit at 114.7 million barrels, still about 6% below the five-year average. If the spread compression were coming from supply relief, utilization would be climbing and inventory would be rebuilding. It is not.

Three mechanisms fit the data better:

- Crude-driven relief via WTI. WTI fell from $92.13 on April 14 to $86.25 on April 21 — a $5.88 per barrel retreat, or about $0.14 per gallon at the retail pump. This is the dominant explanation for the headline price easing.
- Hormuz risk premium unwind. Ceasefire sentiment narrows the feedstock anxiety component faster than the underlying crude price. Diesel, which is heavy-sour-dependent, carries a larger Hormuz premium than gasoline.
- Demand response at >$5. Fleets at these price levels defer discretionary trips, consolidate loads, and reroute. Diesel demand is more price-elastic at the top of this range than gasoline demand, which is set by commuting patterns that are close to inelastic.

The second-order implication matters. If the retreat is crude-retreat plus sentiment unwind plus demand destruction — and not a supply-side recovery — it is a fragile retreat. The supply buffer has not improved. A Brent reacceleration, a Hormuz escalation, or an unplanned refinery outage could snap diesel back faster than it came down, because there is no new inventory or capacity absorbing the shock.

STEO Forecast Evolution

Metric	March STEO	April STEO	Samsara Actual (Apr 20)
Diesel, Q2 2026	$3.55/gal	$5.61/gal	$5.22/gal
Diesel, Q3 2026	Not published	$5.00/gal	—
Diesel, Q4 2026	Not published	$4.59/gal	—
Diesel, 2026 full year	$3.55/gal (flat)	$4.80/gal	—
Diesel, 2027 full year	Not published	$4.11/gal	—
Implied crude basis	~$65/bbl	~$95/bbl Brent	WTI $86.25 (Apr 21)

The April STEO now projects Q2 diesel at $5.61 — above Samsara's most recent actual. A month ago, the gap ran the other way ($3.55 projected vs. $4.78 actual). The flip reflects exactly what we would expect from a monthly model that incorporates data from the period of peak pressure: it publishes at the top and gets front-run by the retreat. Neither data source is wrong. STEO forecasts forward; Samsara reports current actuals. The two should be read together.

Scenario Analysis

The scenarios below are illustrative planning ranges derived from EIA/STEO projections and current market structure — they are not Samsara forecasts. The two-week retreat meaningfully shifts the probability weighting. The April 6 peak of $5.49 appears to be a credible local top under current assumptions. But the retreat is crude-and-sentiment driven, not supply-driven — utilization is moving the wrong direction and distillate inventory is still 6% below the five-year average.

Scenario	Description	Week 4	Week 8	Week 12	Week 16
Structural Plateau	Retreat finds floor; structural premium persists	$5.00–$5.20	$4.95–$5.15	$4.90–$5.10	$4.85–$5.05
Ceasefire + De-escalation	Hormuz normalizes; Brent retreats to $75–80	$4.85–$5.05	$4.55–$4.85	$4.35–$4.65	$4.20–$4.50
Crude Reacceleration	Ceasefire fails; Brent $95–105	$5.20–$5.40	$5.35–$5.55	$5.40–$5.60	$5.35–$5.55
Full Escalation	Hormuz	$5.75–	$6.30–	$6.75–	$6.70+

	closure; Brent $120+	$6.05	$6.70	$7.15	

Structural Plateau (Central Case)

Hormuz tensions ease modestly; crude holds near current levels; refinery utilization recovers slowly from the April 10 dip. Refinery and inventory constraints persist but do not worsen. Diesel settles in the $4.95–$5.10 range — a "new normal" that fleet budgets must absorb. This is roughly consistent with the April STEO's Q3 forecast of $5.00. Summer driving season risk is the principal threat: as refiners shift yield toward gasoline in May through August, diesel supply tightens and the spread may re-widen.

Ceasefire + De-escalation

A sustained Hormuz de-escalation brings Brent back to $75–80, removing $0.35–$0.50 per gallon from the crude component. Diesel retreats to the $4.30–$4.50 range by mid-July — roughly in line with the April STEO's Q4 forecast of $4.59. Even here, diesel stays above $4.00 because the refining capacity gap and inventory premium do not unwind with a ceasefire. That is the floor: the cost of losing 573,000 barrels per day of complex refining capacity.

Crude Reacceleration

The WTI retreat reverses, Hormuz tensions oscillate, and diesel re-tests $5.45–$5.55 within a month. The April utilization drop makes this path more dangerous than a mean-reversion read would suggest. Supply has not rebuilt any buffer; a crude spike transmits to the pump with no dampening.

Full Escalation

Hormuz closure or a sustained blockade pushes physical crude above $120 per barrel. Both cost channels fire simultaneously. Diesel reaches $6.50–$6.95 by week 8–12. At those levels, demand destruction accelerates — fleets park trucks, shippers defer loads.

Regional Analysis: PADD-Level Divergence

The national scenarios mask significant regional divergence. The refinery closures are concentrated in PADD 5 (West Coast), which has absorbed 309,000 of the 573,000 barrels per day of total lost capacity.

PADD Region	Capacity Lost	Diesel Range (Mid-Apr)	Outlook
PADD 1 (East Coast)	None confirmed	$5.50–$6.65	Import-dependent; vulnerable to shipping disruptions

PADD 2 (Midwest)	None	$4.90–$5.20	Best positioned; pipeline-supplied, inland
PADD 3 (Gulf Coast)	264 kbd	$5.00–$5.40	Large remaining capacity absorbs some loss
PADD 4 (Rocky Mountain)	None	$5.00–$5.50	Isolated; limited pipeline, volatile
PADD 5 (West Coast)	309 kbd	$6.33–$6.60	Worst positioned; 17% capacity lost

EIA's PADD 5 weekly diesel survey for the week ending March 30, 2026, posted at $6.596 per gallon — more than $1.30 above the national average at the same point in time. For a 1,000-truck fleet, the PADD differential is material. A $0.70 per gallon spread between Midwest and West Coast operations translates to $6.0 million per year in fuel cost difference. Route optimization and regional fueling strategies are no longer marginal efficiency plays — they are P&L-level decisions.

West Coast as the Priority Case

West Coast fleet operators face a structurally different environment than the rest of the country. With 17% of California's refining capacity gone and no replacement on any relevant timeline, PADD 5 diesel pricing is increasingly set by import costs from Asia rather than domestic refining economics. That exposes PADD 5 to both the domestic capacity gap and international shipping and refining margins — a double premium.

During the March surge, Washington hit $6.33 while Montana (PADD 4, just across the state line) sat at $4.82. A $1.51 differential between adjacent PADDs means the national STEO projection was even less representative for West Coast operators than for the country as a whole.

State-Level Variation

State	Diesel ($/gal)	vs National Avg	vs Dec 29 Baseline
Connecticut	$6.65	+$1.20	+102%
Washington	$6.33	+$0.88	+92%
California	$6.14	+$0.69	+86%
US Average (mid-April)	$5.45	—	+65%
North Dakota	$4.88	-$0.57	+48%
Oklahoma	$4.87	-$0.58	+48%
Montana	$4.82	-$0.63	+46%

The national spread of $1.83 between highest and lowest states means location is a material cost variable.

Fleet Cost Impact

Cost impact measured against the December 29, 2025 baseline of $3.30 per gallon. Assumes 62,169 miles per truck per year (DOE/FHWA Highway Statistics 2021) and 7.28 miles per gallon (NACFE fleet efficiency benchmark).

Fleet Size	Current (+$1.92/gal)	Structural Plateau	Ceasefire	Full Escalation
100 trucks	+$1.6M/yr	+$1.5M/yr	+$0.9M/yr	+$2.8M/yr
500 trucks	+$8.2M/yr	+$7.3M/yr	+$4.7M/yr	+$14.1M/yr
1,000 trucks	+$16.4M/yr	+$14.5M/yr	+$9.4M/yr	+$28.2M/yr
5,000 trucks	+$82.0M/yr	+$72.6M/yr	+$47.0M/yr	+$140.9M/yr

The retreat from the $5.49 peak to $5.22 saves a 1,000-truck fleet roughly $2.3 million per year in run-rate — meaningful, but a rounding error against the $16.4 million per year impact still on the table relative to baseline.

Fuel Surcharge Gap Analysis

Most fleets negotiate fuel surcharges (FSC) pegged to EIA's weekly national average diesel price — a survey of posted retail prices at approximately 400 stations. Samsara's data reflects actual transactional spend at fleet card networks. These are fundamentally different measurements, and in a rapidly repricing market they diverge.

Week Ending	EIA Weekly Diesel (Survey)	Samsara Transactional	Gap
2026-03-30	$5.40/gal	$5.28/gal	-$0.12
2026-04-06	$5.643/gal	$5.49/gal	-$0.15

During the surge, Samsara's transactional fleet spend ran $0.12–$0.15 per gallon below the EIA weekly survey. The direction makes sense: fleet card networks price off wholesale racks with daily adjustments, and fleets receive volume-negotiated and loyalty discounts that posted retail signs do not reflect. Posted retail signs are the gross price a walk-in consumer pays. Transactional fleet data is what a commercial fleet actually pays.

For carriers whose FSC is pegged to the EIA weekly survey, this is directly relevant. During a surge, the FSC pays out on a posted-retail index that runs higher than actual fleet cost — meaning carriers may be over-recovered relative to their true fuel spend. During a retreat, if posted prices fall more slowly than transactional, the same dynamic could reverse.

Illustrative FSC Impact

FSC Gap	Per-Mile Impact (7.28 mpg)	Annual Impact per Truck	1,000-Truck Fleet
$0.15/gal	$0.021/mile	$1,281	$1.3M
$0.25/gal	$0.034/mile	$2,135	$2.1M
$0.50/gal	$0.069/mile	$4,270	$4.3M
$0.75/gal	$0.103/mile	$6,405	$6.4M

Proposed Contract Mechanism: Volatility Trigger Clause

As an illustrative example, carriers and shippers could consider adding a real-time adjustment provision to FSC contracts: if a transactional fuel index deviates from the EIA weekly estimate by more than 5% for two consecutive weeks, a supplemental adjustment could be applied using the transactional rate until the indices reconverge. This would protect both parties — it pays into whichever side of the contract is running below actual.

The FSC gap is not a tool for adversarial renegotiation — it is a shared-risk mechanism. The data shows the gap moves in both directions depending on market regime. The conversation is better had proactively, with data, than reactively, with service disruptions.

The Opportunity: Real-Time Fuel Intelligence

Samsara has a unique asset: real-time, transactional fuel pricing from fleet customers who are actually absorbing these costs. Combined with EIA's structural framework — which, as this analysis demonstrates, provides highly accurate capacity, inventory, and utilization data — the two sources create a forecasting capability that neither offers independently. EIA maps the geology; Samsara reads the seismograph.

Fuel cost forecasting. A tool that layers Samsara's real-time pricing onto the STEO's structural framework gives fleet operators a view neither source provides independently. STEO tells you what drives prices and where they're heading structurally. Samsara tells you where they are this week and which direction they turned.

Fuel surcharge calibration. Samsara's transactional data reveals a gap between actual fleet fuel spend and the EIA weekly estimates that underpin most FSC contracts, and the direction of that gap depends on the market regime. That is a data-driven basis for carriers to revisit their surcharge formulas with shippers.

Fuel efficiency as a competitive moat. When diesel was $3.30, a 3% mpg improvement saved $821 per truck per year. At $5.22, the same improvement saves $1,298 — a 58% increase in the ROI of fuel optimization. Every fuel efficiency capability is worth more to the customer today than it was four months ago.

In a low-margin industry where fuel is typically 30–40% of operating costs, and where fuel costs are still +58% from baseline even after the retreat, the carriers who can squeeze an additional 2–3% in fuel efficiency are building a structural cost advantage. At $5.22 per gallon, a 1,000-truck fleet that achieves 7.50 mpg instead of 7.28 mpg saves $1.3 million more per year than a competitor at the same fleet size. Fuel efficiency at these price levels is no longer an operational optimization — it is a competitive moat.

Key Assumptions and Limitations

1. Crude price as of April 21 intraday. Brent slipped below $95 after higher earlier-session trading; WTI at $86.27 with an intraday range of $86.01–$86.35, down $5.86 per barrel from April 14. Both benchmarks are reacting hour-to-hour to Hormuz ceasefire developments.
2. EIA weekly inventory and utilization from the April 16 release. Distillate inventory 114.7 million barrels and utilization 89.6%, both for the week ending April 10. This is a single print; two to three weeks of data will clarify the trend.
3. The two-week retreat is two weeks, not a trend. Supply Snap risk remains the largest model uncertainty. At current inventory levels with utilization moving the wrong direction, the market is a single unplanned outage from a regime change.
4. The diesel-gasoline relationship is regime-dependent. Summer driving season (May–August) is likely to shift the dynamic again as refiners compete for gasoline yield.
5. Dual-channel Hormuz risk is additive in the model, multiplicative in practice. The Full Escalation scenario may be understated by 10–15%.
6. Fleet parameters are national averages. The 62,169 miles per year and 7.28 mpg assumptions will vary significantly by fleet type, region, and operational profile.

Appendix A: Refinery Closures Modeled

Refinery	PADD	Capacity	NCI	Closure	Diesel Yield	In STEO
LyondellBasell Houston	3 (Gulf)	264 kbd	9.5	Mar 2025	28%	Yes
Phillips 66 Wilmington	5 (West)	139 kbd	12.8	Nov 2025	32%	Yes
Valero Benicia	5 (West)	170 kbd	11.2	Apr 2026	30%	Yes
PBF Energy Martinez*	5 (West)	80 kbd	10.5	Sep 2026 (est)	29%	No
PADD 1 aging facility	1 (East)	120 kbd	8.0	Jul 2026 (est)	26%	No
Small Gulf Coast facility	3 (Gulf)	60 kbd	7.5	Oct 2026 (est)	24%	No

**PBF Martinez: The "partial" reduction reflects the pattern of hydrocracker-to-renewable-diesel conversions occurring at several California refineries under the state's Low Carbon Fuel Standard. The facility may remain nominally operational while its output of traditional petroleum diesel drops by 30–50%. This makes the capacity loss partially invisible in official data, reinforcing the structural plateau argument.*

All three confirmed closures processed heavy sour crude and had Nelson Complexity above 9.5. These are the facilities that produce the highest diesel yields from the cheapest feedstock. Their loss is disproportionate to their capacity share — and irreplaceable on any timeline shorter than a decade.

Why Complex Refinery Closures Hit Diesel Hardest

Not all refinery capacity is equal. The Nelson Complexity Index (NCI) measures how much secondary processing a refinery can do — coking, hydrocracking, desulfurization — beyond basic distillation. Higher complexity means the refinery can process cheaper, heavier crude and produce more diesel per barrel.

The three closures since January 2025 averaged NCI 11.2. The US fleet average is approximately 10. The lost capacity was disproportionately diesel-producing capacity running on the cheapest feedstock. Replacing it requires building new complex capacity (10–15 year timeline), increasing refined diesel imports (expensive, logistics-constrained), or running lighter crude through simpler refineries at lower diesel yields. None of these substitutes are fast. This is why the refining margin remains structurally elevated even when crude moderates.

Data Sources

- Samsara Fuel Spend Index: transactional fuel data pipeline, weeks of December 29, 2025 through April 20, 2026
- EIA Short-Term Energy Outlook (STEO), March 2026 and April 2026
- EIA Weekly Petroleum Status Report (WPSR), April 16, 2026 release
- EIA Weekly Retail Gasoline and Diesel Prices (survey)
- EIA Petroleum Supply Monthly and Refinery Capacity Data
- EIA STEO Petroleum Refining Model Documentation
- ATRI Operational Costs of Trucking (fleet parameter benchmarks)
- Market data: Brent and WTI spot prices, April 21, 2026

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This report contains forward-looking statements, including projections of diesel prices, scenario analyses, and estimates of fleet cost impact. These statements are based on current market conditions, publicly available data from the U.S. Energy Information Administration (EIA), and Samsara's proprietary transactional fuel data. Actual results may differ materially from those projected due to changes in crude oil prices, geopolitical conditions, refinery operations, regulatory actions, weather events, and other factors beyond our control.

References to potential future refinery closures (denoted with "est" dates and marked as not in STEO) represent the author's assessment based on publicly available information about facility economics, regulatory pressure, and industry trends. These are analytical estimates, not confirmed events. The mention of any company in this context does not imply inside knowledge of that company's plans.

The Fuel Surcharge Gap Analysis and proposed Volatility Trigger Clause are presented as illustrative frameworks for industry discussion. They do not constitute legal advice or recommended contract language. Carriers and shippers should consult legal counsel before modifying fuel surcharge agreements.

Samsara's transactional fuel data reflects aggregated, anonymized fleet fueling events and does not disclose individual fleet or company data. EIA data is public and used in accordance with U.S. government data usage policies.

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