



SUPPLY CHAIN ANALYSIS

The Freedom Fuel Network

How 25 gas stations sell fuel below market:
What the supply chain can and cannot tell us

A probabilistic assessment of refiner, terminal, and distributor pathways serving stations in the Philadelphia metropolitan area, southern New Jersey, and south-central Pennsylvania.

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*No certificates of analysis or fuel samples were available for this assessment.
See “What Was Not Available” on page 11.*

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Executive Overview

In early July 2026, twenty-five gas stations around Philadelphia and southern New Jersey began selling gasoline for less than it costs to buy. They rebranded overnight as the Freedom Fuel Network, the White House promoted them, and two questions followed immediately: who owns them, and who is paying for the discount? Both remain unanswered in public.

This paper does not answer them either. It does something narrower and, we think, more useful: it maps what the physical supply chain makes possible and assigns probabilities to each explanation.

A short primer, because the industry is counterintuitive:

Gasoline is not shipped from a refinery to your corner station. It travels by pipeline into a large storage terminal called a rack, where it is mixed with gasoline from other refineries into a common pool. A distributor - in the trade, a jobber - buys from that pool, trucks it to stations, and adds a chemical package if the station carries a brand. This means that once fuel enters a rack, no paperwork on earth can tell you which refinery made the specific gallons in a given tank. That is not a gap in reporting. It is how the system is built.

Gasoline does not carry an origin certificate. Once it enters a terminal, it is legally and physically pooled with everyone else's. You cannot know which refinery made the fuel in your tank - and neither can anyone else, without a laboratory analysis.

Fuel Certificates of Analysis (ISO 8217) were not available. COAs are privately owned information, and are not published, nor are registered with regulatory authorities. Fuel Refineries, Storage Yards, and Distributors are required to retain such certificates from 6 months to 2 years after fuel production or transfer to a new custodian or storage facility.

Working within that limit, we find the pricing puzzle has a mundane and highly probable explanation. The stations most likely filled their tanks before oil prices spiked on 8-July, and were selling last week's cheaper fuel at this week's posted price. The price then climbed from \$3.47 to \$3.57 within about seven days - which is roughly how long it takes a busy station to empty and refill its tanks. That decay pattern is the fingerprint of inventory, not of a subsidy.

We also find that the government's statement and the station employee's statement are both probably true. They are simply measuring against different numbers.

The White House says nobody is subsidizing the fuel. A station employee says they are selling below cost. Those are not contradictory. They are measured against different cost bases - and the most likely explanation for who paid for the discount is that, in cash terms, nobody did - it likely is a market gap and marketing choice. However, that gap does not meet the full supply chain and fulfillment costs. Profitability questions and margin support remain unanswered.

Finally, we note what would have settled this in a day rather than a fortnight: a certificate of analysis and leveraging our proprietary AI Digital Chemist and patented Supply Chain Detective. Fuel is tested at the refinery and can be tested at the rack and at the station tank. Those test results are a chemical signature. Matched across a chain, they resolve origin with a precision that no amount of logistics reasoning can approach. They exist. They are simply not collected, not standardized, and not available - to reporters, to regulators, or to the public. This unavailable data chain lowers our normal certainty measures from 0.98-0.99 downward to the values stated throughout this document (a mean of <0.75).

Key Findings

1. The discount is almost certainly self-financed, not subsidized

Composite probability ≈ 0.45 that the price is explained with no external money: pre-spike inventory, a zeroed retail margin, unbranded sourcing, and a forward position taken before the war and carried in from outside the LLC. The first three are each individually likely but arithmetically insufficient - together they leave \$0.14 to \$0.28 per gallon unexplained. Only a pre-war forward position closes that gap, and no evidence has been found that one exists. Any subsidy (especially a Federal Fuel Tax rebate) could account for this gap, but it is denied by the Administration.

2. The loss is concentrated in Pennsylvania, not New Jersey

This asymmetry has not been reported elsewhere, and it explains the White House's otherwise cryptic note that prices would vary by location.

3. PBF Energy is the only refiner within 50 miles of both station clusters

Its Paulsboro, New Jersey refinery is the single pivot asset in the region - close enough to serve the Philadelphia stations and the Atlantic County stations alike. Every other local refiner reaches only one cluster. The PBF Energy refinery has the lowest cost fuel take-off in region due to its co-location with the Colonial Pipeline.

4. Fleet capacity screens out almost nobody

The entire 25-station network needs an estimated 10–14 tractor-tanker units. That is a mid-small regional jobber. Capacity is not the constraint people assume it is; rack contracts and haul distance are.

5. The network's most remote station has its best economics

This is an unexpected observation, requiring some additional assessment. Pricing of fuel at the end-point is directly (and materially) affected by delivery costs.

The one station a hundred miles from everything has the shortest fuel haul in the network - about seven miles. Meanwhile the cheapest-looking pumps, down by the shore, sit at the end of the network's most expensive supply leg. All stations are independently owned and not owned by any Energy Supplier directly.

6. Multiple intermediary suppliers are more likely than one

Probability ≈ 0.75 that two or more Distributors serve the network. Three geographic clusters have three different optimal racks, and it is improbable that any newly constructed ten-day-old company would have time to consolidate the supply contracts its stations already had. This means pricing of transport can be optimized across a competitive logistics chain.

7. A pre-war hedge is the only mechanism big enough - and the Freedom Fuel Network LLC is too young to hold one

Forward gasoline for August 2026 delivery averaged \$2.0114 in January and settled at \$3.2273 on 14 July. A position taken in January is worth about \$1.22 per gallon - which could possibly account for the entire discount once total purchase and delivery costs are included. The window closed in mid-May. Freedom Fuel Network, LLC was incorporated on 23 June, so it cannot have held one; any such position must have been placed elsewhere and assigned.

Why This Question Is Structurally Hard

Before any analysis, it is worth being precise about what is knowable.

Fungibility is a design feature

Refined gasoline meeting a given specification is commercially interchangeable. Pipelines batch it, terminals pool it in shared tankage, and brand identity is conferred at the truck rack by an additive package - not by a dedicated supply line from a particular refinery. A station that flew a Sunoco sign yesterday and a Freedom Fuel sign today may be receiving molecules from precisely the same tank.

The consequence: refiner attribution is probabilistic by construction. This is a limit of the physical system, not a limit of the research. It cannot be resolved by better reporting, more FOIA requests, or more diligent record-checking. It can only be resolved by chemistry.

What is knowable

- Which racks (storage depots) are capable of serving each station, and at what haul distance.
- Which pipelines feed those racks, and which refineries feed those pipelines.
- The wholesale cost floor at any given rack on any given day.
- What delivery cadence the stations' volumes require, and therefore what fleet is needed.

What is not knowable from public sources

- The identity of the owner of Freedom Fuel Network, LLC - a Delaware entity whose registered agent address is shared with hundreds of other companies.
- Which jobber holds the supply contract for any specific one of the 25 addresses.
- Which refinery produced any specific gallon - absent laboratory analysis.

Everything that follows is built on the first list and honest about the second.

Timeline

Date	Event
13 Jun 2026	Freedom Fuel Network website domain registered.
23 Jun 2026	"Freedom Fuel Network, LLC" incorporated in Delaware.
1 Jul 2026	Announced on Truth Social with an AI-generated image; federal trademark application filed same day.
3 Jul 2026	Stations begin selling regular gasoline at \$3.47–\$3.479 per gallon. Regional rack price that day: about \$2.89.
7 Jul 2026	White House publicizes the first station - a converted Sunoco in Dresher, PA - framing \$3.47 as a nod to the 47th president.
8 Jul 2026	Iran ceasefire declared over; crude and wholesale gasoline resume climbing.
10 Jul 2026	Most network stations now at \$3.57 or above. Cheap inventory is running out.

Sources: TIME; CNN Business; ABC News; The Hill; NOTUS; Philadelphia Inquirer.

The Physical Supply Chain

Fuel reaches these stations through a five-stage chain: pipeline, refinery, rack (storage terminal), jobber, truck, station. Below are the assets that physically exist in range.

Refineries within reach

Refinery	Capacity	Notes
PBF Delaware City, DE	190,000 bpd	Largest local gasoline producer. Feeds Twin Oaks via PBF's own 23.4-mile, 16-inch Delaware Pipeline Company line.
PBF Paulsboro, NJ	185,000 bpd	Unbranded gasoline. Pipeline links to Philadelphia International Airport and a nearby Colonial junction. The only refinery within ~50 miles of both station clusters.
Monroe Energy / Trainer, PA	185,000 bpd	Delta Air Lines subsidiary. Adjacent to the Twin Oaks hub. Jet-maximized configuration means proportionally less gasoline into the local pool.

Philadelphia's own refinery - the former Sunoco/PES Point Breeze-Girard Point complex - closed permanently after the 2019 explosion and is being redeveloped as the Bellwether District. It is no longer a fuel source.

Racks in play

Rack	Operator	Fed by
Twin Oaks, Aston PA	Energy Transfer M&T	Trainer (adjacent) and Delaware City (PBF line). Origin of the 105-mile Twin Oaks-Newark line and the Laurel Pipeline.
Philadelphia, 51st St	Sunoco LP	Point Breeze / Twin Oaks system, plus marine imports.
Malvern, PA	Buckeye Terminals	Buckeye Eastern / Laurel system.
Westville / Eagle Point, NJ	Sunoco LP	Harbor Pipeline origin near Woodbury; adjacent to PBF Paulsboro.
Paulsboro, NJ	Sunoco LP	Adjacent to PBF Paulsboro refinery.
Montello, Sinking Spring PA	Sunoco / Energy Transfer	Laurel Pipeline origin point.
Mechanicsburg, PA	Lucknow-Highspire	Laurel / Buckeye. Affiliate: Gulf Operating LLC.
Middletown / Highspire, PA	Lucknow-Highspire	Laurel / Buckeye.

Confirmed via Buckeye's Directory of Connected Facilities and Sunoco LP terminal listings.

The Colonial question

Colonial Pipeline's Northeast mainline terminates at Linden Junction, New Jersey, where its Intra-Harbor Transfer system cross-connects five terminals: Kinder Morgan Carteret, Kinder Morgan Perth Amboy, Buckeye Perth Amboy, Buckeye Port Reading, and Shell Sewaren. These are Colonial's true Northeast offtake branches. They sit 85 to 100 miles from the nearest station, and their own refinery sources trace roughly 1,500 miles back down the mainline to the Gulf Coast. Colonial ships commingled batches, so no individual refinery is attributable at those terminals either.

Rack Attribution by Cluster

Probabilities below are structured estimates derived from haul distance, pipeline connectivity, and incumbency - not empirical measurements. They are offered as a defensible ranking, not as findings.

Philadelphia core: 20 PA stations plus Marlton and West Berlin

Rack	P	Driver
Twin Oaks (Aston)	0.35	Best median haul across the cluster; two refineries feed it directly.
Sunoco LP Philadelphia, 51st St	0.30	Shortest haul to the six city stations; ex-Sunoco incumbency at 8+ sites.
Buckeye Malvern	0.15	The only rational rack for Pottstown and Eagleville.
Sunoco Westville / Paulsboro	0.15	Best for Delaware County and the two NJ-near-Philadelphia stations.
Montello (Sinking Spring)	0.05	Marginal - Pottstown only.

Atlantic County: 3 stations

Rack	P	Driver
Sunoco Westville / Eagle Point	0.55	Closest viable rack at ~50 miles; Harbor Pipeline origin.
Twin Oaks	0.20	A 10-mile penalty, but one jobber could consolidate.
Sunoco Paulsboro	0.15	Adjacent alternate.
Other / unidentified NJ rack	0.10	Residual.

Refiner attribution: all clusters

This is the layer where fungibility caps confidence. Confidence in the ranking: moderate.

Confidence in any single-refiner attribution: low, and irreducibly so without laboratory analysis.

Refiner	P	Basis
PBF Delaware City	0.35	Largest local gasoline producer; dedicated pipeline into Twin Oaks.
PBF Paulsboro	0.30	Unbranded gasoline; adjacent to two racks; reaches both clusters.
Colonial / marine imports (Gulf Coast)	0.20	Harbor and Colonial connectivity into the same tankage.
Monroe / Trainer	0.15	Jet-maximized configuration yields proportionally less gasoline.
Combined PBF Refineries	>0.80	Maximum amount of coverage and single contractability through Suppliers and Jobbers.

Demand and Fleet Sizing

A common assumption is that supplying 25 stations requires a large distributor. It does not. Here is the arithmetic.

Throughput per station

Scenario	Gallons / week	Loads / week at 8,500 gal
US retail baseline	26,000	3.1
+50% (network's claimed average)	39,000	4.6
+100% (network's claimed peak)	52,000	6.1

A three-per-week delivery cadence is the pre-surge baseline. At the volumes the network itself claims, the fleet must sustain roughly 115 to 150 loads per week across all 25 sites.

Fleet requirement

- Short haul under 35 miles round trip: 3–4 turns per tractor per day.
- Long haul - Philadelphia rack to Egg Harbor, about 50 miles each way: 2 turns per day.
- At 130 loads per week over 5.5 working days at 3 turns per day: approximately 8 tractors.
- Adding hours-of-service slack, geographic spread, and the Egg Harbor penalty: 10 to 14 tractor-tanker units.

Ten to fourteen trucks is a mid-small regional jobber. Capacity eliminates almost nobody from consideration. The discriminating variables are rack contracts and haul distance - not fleet size.

Regional distributors that clear this bar comfortably include Sunoco LP's wholesale arm, Energy Transfer Marketing & Terminals, Lucknow-Highspire, Guttman Energy, and Ross Enterprises of Carneys Point, New Jersey - which sits within a few miles of both PBF refineries. We name these as capable participants in this corridor. We do not assert that any of them supplies this network; no public source identifies any distributor for any of the 25 addresses. Sunoco's prior disproven denials or non-statements of providing fuels to other high-visibility customers or networks should cause any analyst pause from dismissing them from consideration despite their statements.

The Camp Hill Anomaly

One station - 811 Hartzdale Drive in Lower Allen Township, near Harrisburg - sits about 100 miles from every asset discussed so far. It fails the premise that a nearby refinery is required. It also happens to have the best fuel economics in the network.

Path	P	Haul	Note
Lucknow-Highspire Mechanicsburg rack	0.50	~7 mi	The shortest rack-to-station leg in the entire network. Freight under 1.5 cents per gallon.
Lucknow-Highspire Middletown / Highspire	0.35	~13 mi	Same operator family; more product optionality.
Sunoco Montello (Sinking Spring)	0.15	~60 mi	Only rational if the jobber holds a Montello contract and no LHT relationship.

Lucknow-Highspire collectively carries about p0.85 for this station.

The lesson generalizes: proximity to a refinery is not what matters. Proximity to a rack is.

The Laurel Pipeline carries Philadelphia-refined product to Harrisburg-area terminals, so a station 100 miles inland can be better supplied than one 20 miles from a refinery gate.

How the Price Is Possible

This is the question that matters, and the answer is more interesting than a subsidy.

The tax asymmetry nobody has reported

	PA station	NJ station
Rack price, 3 July	\$2.89	\$2.89
State fuel tax	\$0.576	~\$0.45
Federal tax	\$0.184	\$0.184
Freight and card fees	~\$0.11	~\$0.13
Break-even	~\$3.76	~\$3.65
Sold at \$3.47	−29¢	−18¢
At \$3.57 by 10 July	−19¢	−8¢

ABC News published a more conservative Pennsylvania break-even near \$3.64 using lighter freight and fee assumptions. Either way the sign is negative. This asymmetry explains the White House's note that prices would fluctuate given that some stations are in Pennsylvania and some in New Jersey.

Mechanism probabilities

These are not mutually exclusive. P is the probability that a mechanism is materially contributing.

Mechanism	P	Reasoning
Pre-spike inventory timing gain	0.75	Best fit to the decay signature: \$3.47 held about seven days, then stepped to \$3.57 - roughly one to two tank turns. Requires no subsidy. Fully consistent with the White House statement.
Vertical integration - owner is also the marketer	0.35	Reconciles "below our cost" with "no entity subsidizing." Now contested: ABC News's review of public records and station histories found the stations appear independently owned, and the Courier-Post reports the five NJ sites are held by a Chicago-based real-estate group. TIME's White House source is the only support for single ownership.
Unbranded rack sourcing	0.70	Occurring, but worth only 3 to 8 cents. Contributory, insufficient alone.
Deliberate marketing loss on owner equity	0.45	Cheap advertising against national earned media. But it cannot be the whole answer: Zycher (RealClearMarkets, 14 July) independently puts distribution and marketing at ~8% of retail, about \$0.31/gal, against a ~\$0.40 discount. Zeroing all margin still leaves a gap.
RIN / RVO credit monetization	0.25	Only if the entity is a position holder or blender. Worth several cents if so.
Jobber absorbing the loss for volume	0.20	Would be a private subsidy - contradicts the "no other entity or person" wording if true.
Undisclosed non-federal third-party subsidy	0.15	Denied on the record; currently unfalsifiable.
Convenience-store cross-subsidy	0.05	Reporting describes small sites with limited merchandise - fuel-margin dependent.
Federal subsidy or price lock	0.03	Explicitly denied. No identified mechanism. Nothing in the pricing signature requires it.

Mechanism	P	Reasoning
Pre-war forward position carried in from an affiliate	0.40	The only mechanism of sufficient magnitude. August-2026 gasoline averaged \$2.0114 in January against \$3.2273 on 14 July - a \$1.22/gal advantage. But the LLC did not exist until 23 June, so any position must have been placed elsewhere and assigned. No evidence one exists.
Non-cash policy or regulatory favour	0.10	Raised by Zycher (14 July) as possible while noting nobody has established it. Would not be a cash “subsidy” under the White House’s wording. No mechanism identified; included for completeness.

Pre-Contracted Pricing and Delivery Economics

The mechanism table above assigns the highest probability to inventory timing. This section tests that claim against the actual market. It uses sixty days of real settlement data for the two contracts that physically settle at New York Harbor - the wholesale benchmark for the Philadelphia and southern New Jersey market - and converts them into the two numbers that determine what a station pays: the price of the fuel, and the cost of moving it.

How to read the table

Spot is the daily settlement of the NYMEX RBOB gasoline contract. Contract is the price a buyer with a pre-bought, term supply agreement would typically pay - about three percent under spot. Diesel spot is the settlement of the NYMEX ULSD contract, which is what the delivery truck itself burns.

Delivery cost is built from a standard tank truck of 8,500 gallons, a base delivery charge of \$400 per load, and diesel consumed at 4.2 miles per gallon. The truck's fuel cost per mile is therefore the diesel spot price divided by 4.2. The cost of delivery per gallon of product, for a haul of M miles, is the base charge plus the fuel burn over that distance, spread across the 8,500 gallons in the trailer:

$$\text{Delivery cost per gallon} = (\$400 + M \times (\text{diesel spot} \div 4.2)) \div 8,500$$

The table shows this at 25 miles - the median haul for the Philadelphia cluster - and at 50 miles, the haul to the Atlantic County stations. The result is the single most important finding in this section, and it is a negative one: delivery cannot explain the discount, because delivery barely moves. Across all sixty days, the cost of getting a gallon to a Philadelphia station stays between \$0.0492 and \$0.0499. At 50 miles to the Atlantic County stations it stays between \$0.0513 and \$0.0527.

The reason is structural. The \$400 base charge, spread over 8,500 gallons, is \$0.0471 per gallon on its own - and that figure is fixed regardless of diesel. The fuel the truck actually burns adds only about \$0.0024 over 25 miles. So even though diesel itself swung 31 percent across the window, from \$3.055 to \$4.014, the delivery cost per gallon moved by less than \$0.001. Freight is a rounding error against a shortfall measured in tenths of a dollar.

Date	Gas spot	Contract	Diesel spot	Truck fuel	Delivery	Delivery
2026	\$/gal	\$/gal (-3%)	\$/gal	\$/mi	\$/gal @25mi	\$/gal @50mi
May 18	3.461	3.357	3.867	0.921	0.0498	0.0525
May 19	3.429	3.326	3.910	0.931	0.0498	0.0525
May 20	3.255	3.157	3.723	0.886	0.0497	0.0523
May 21	3.165	3.070	3.619	0.862	0.0496	0.0521
May 22	3.231	3.134	3.659	0.871	0.0496	0.0522
May 26	3.063	2.971	3.536	0.842	0.0495	0.0520
May 27	2.990	2.900	3.453	0.822	0.0495	0.0519
May 28	3.015	2.925	3.483	0.829	0.0495	0.0519
May 29	2.959	2.871	3.433	0.818	0.0495	0.0519
Jun 1	3.017	2.926	3.577	0.852	0.0496	0.0521
Jun 2	3.077	2.985	3.636	0.866	0.0496	0.0522
Jun 3	3.073	2.981	3.777	0.899	0.0497	0.0523
Jun 4	2.983	2.894	3.621	0.862	0.0496	0.0521
Jun 5	2.987	2.897	3.551	0.846	0.0495	0.0520
Jun 8	3.019	2.928	3.574	0.851	0.0496	0.0521
Jun 9	2.981	2.891	3.518	0.838	0.0495	0.0520
Jun 10	3.063	2.971	3.579	0.852	0.0496	0.0521
Jun 11	3.046	2.954	3.483	0.829	0.0495	0.0519
Jun 12	2.987	2.897	3.364	0.801	0.0494	0.0518
Jun 15	2.884	2.798	3.226	0.768	0.0493	0.0516
Jun 16	2.813	2.729	3.127	0.745	0.0492	0.0514
Jun 17	2.833	2.748	3.144	0.749	0.0493	0.0515
Jun 18	2.902	2.815	3.085	0.735	0.0492	0.0514
Jun 22	2.880	2.793	3.057	0.728	0.0492	0.0513
Jun 23	2.858	2.773	3.112	0.741	0.0492	0.0514
Jun 24	2.792	2.708	3.112	0.741	0.0492	0.0514
Jun 25	2.902	2.815	3.209	0.764	0.0493	0.0516
Jun 26	2.826	2.741	3.102	0.739	0.0492	0.0514
Jun 29	2.901	2.814	3.187	0.759	0.0493	0.0515
Jun 30	2.895	2.808	3.229	0.769	0.0493	0.0516
Jul 1	2.945	2.857	3.218	0.766	0.0493	0.0516
Jul 2	2.917	2.830	3.182	0.758	0.0493	0.0515
Jul 6	3.003	2.913	3.298	0.785	0.0494	0.0517

Jul 7	2.954	2.865	3.302	0.786	0.0494	0.0517
Jul 8	3.103	3.010	3.658	0.871	0.0496	0.0522
Jul 9	3.039	2.948	3.572	0.850	0.0496	0.0521
Jul 10	2.985	2.895	3.553	0.846	0.0495	0.0520
Jul 13	3.166	3.071	3.824	0.910	0.0497	0.0524
Jul 14	3.227	3.130	4.014	0.956	0.0499	0.0527

NYMEX RBOB and ULSD August 2026 contract settlements, 18 May – 14 July 2026, sourced from exchange data. Both contracts are physically settled at New York Harbor and are the standard wholesale benchmark for this region. 15 July is omitted: the contract had not settled at the time of writing. Green rows mark the late-June trough; amber rows mark the post-8 July run-up. Cross-check: RBOB settled at \$2.945 on 1 July and \$2.917 on 2 July, against the \$2.89 regional rack price reported by ABC News for 3 July - two independent sources in agreement, which is why the rack figure used elsewhere in this paper can be relied on.

What the data shows

The shape of the series is the story. Gasoline peaked at \$3.461 on 18 May at the height of the Iran conflict, fell steadily through June to a trough of \$2.792 on 24 June, and then jumped on 8 July - the day the ceasefire was declared over - from \$2.954 to \$3.103, reaching \$3.227 by 14 July. That is a 43-cent swing in six trading sessions.

A buyer holding a term contract at the late-June trough was paying about \$2.708 per gallon. The same buyer on 14 July was facing \$3.131. A station that filled its tanks in the last week of June and posted \$3.47 on 3 July was therefore selling fuel it had bought roughly \$0.42 cheaper than the market it was selling into a fortnight later. This is precisely the inventory-timing signature described earlier, and the market data independently confirms that the window existed.

But the numbers still do not close

Being realistic about it: pre-contracted pricing and cheap delivery are not sufficient. Take the most favourable assumptions available to the network - a term contract struck at the 24 June trough, and the cheapest delivery day in the window.

Best-case build-up	PA station	NJ station
Contract price, 24 June trough (spot \$2.792 less 3%)	\$2.708	\$2.708
State fuel tax	\$0.576	\$0.450
Federal excise tax	\$0.184	\$0.184
Delivery (25 mi PA / 50 mi NJ)	\$0.050	\$0.052
Card fees and handling (approx.)	\$0.090	\$0.090
Break-even at the most favourable inputs	\$3.608	\$3.484
Posted price, 3 July	\$3.470	\$3.470
Shortfall per gallon	-\$0.138	-\$0.014

Even granting the network every favourable assumption - perfect timing on the single cheapest day in sixty, a full term discount, and the shortest haul - a Pennsylvania station is still about \$0.14 underwater per gallon. That is the floor, not the estimate. Measured against the June average contract price of \$2.851, which is what a normal term buyer would actually have paid, the Pennsylvania shortfall widens to about \$0.28. The New Jersey position is far less severe, because its fuel tax is roughly \$0.13 lower.

The three per cent term discount is worth about \$0.09 per gallon. The unexplained gap in Pennsylvania runs from \$0.14 at the most generous reading to \$0.28 at the realistic one. Pre-contracting and delivery efficiency account for roughly half of what the posted price requires - the discount is about twice as deep as this supply chain can legitimately produce.

What the residual implies

A second discount of comparable size to the term discount is unaccounted for. That residual has to come from somewhere in the chain, and the candidates are narrow. It could be a rack supply agreement negotiated below the ordinary term rate. It could be refinery-direct sourcing that bypasses a margin layer entirely. It could be a jobber accepting an unusually thin or negative margin. Or the entity may be capturing the wholesale margin itself through vertical integration, in which case the station's posted cost is an internal transfer price rather than an arm's-length purchase.

None of these requires a government subsidy, and nothing in this data contradicts the White House statement. But the arithmetic does establish that something beyond ordinary pre-buying is present. A

network ten days old at the time of its first fuel purchase obtained terms that a sixty-day market record cannot reproduce. **Who negotiated those terms, and with which rack or refinery, remains the open question** - and it is the question a certificate of analysis would answer directly, by identifying whose molecules are actually in the tanks.

The Forward Curve: What a Pre-War Position Would Be Worth

The previous section leaves between \$0.14 and \$0.28 per gallon unexplained. Term contracting and delivery efficiency, taken together and granted every favourable assumption, close only about half of what the posted price requires. This section examines the one mechanism that closes the remainder comfortably and still requires no external money: a forward position taken before the war.

The August 2026 gasoline contract is the instrument a buyer would use to secure this summer's supply. Its price history is therefore a direct record of what forward supply cost at each point this year - and what anyone who locked it in early is holding today.

Position taken	Sessions	Low	Average	High	Gain per gallon vs 14 July (\$3.227)
January 2026	19	\$1.9005	\$2.0114	\$2.1173	+\$1.22
February 2026	19	\$2.0400	\$2.1401	\$2.2294	+\$1.09
March 2026	21	\$2.2995	\$2.6334	\$2.8752	+\$0.59
April 2026	21	\$2.7123	\$2.9133	\$3.2756	+\$0.31
1–15 May 2026	11	\$3.1582	\$3.2870	\$3.3978	−\$0.06

NYMEX RBOB August 2026 contract settlements, sourced from exchange data. The August contract is the standard instrument for securing summer delivery and is quoted continuously across the period. Green marks the cheapest entry; amber marks the point at which the opportunity closes.

The scale of the advantage

Forward gasoline for August delivery averaged \$2.0114 in January 2026. On 14 July it settled at \$3.2273. Anyone who secured August supply in January is holding an advantage of about \$1.22 per gallon - roughly three times the entire discount the Freedom Fuel stations are offering. This is not a thin edge. It is an overwhelming one, and it would fund the observed pricing several times over.

The opportunity closes in mid-May. A position taken in April still yields about \$0.31 per gallon, which is enough on its own to cover the unexplained residual. By the first half of May the curve had repriced to \$3.2870 and the advantage disappears. The window was open from January to roughly the end of April.

This reframes what “contract price” means in this analysis. The previous section modelled an ordinary term discount of three percent, worth about \$0.09 per gallon. A pre-war forward position is more than an order of magnitude larger. If any participant in this chain holds one, the relevant contract-to-spot gap is not three percent - it is closer to forty.

The timing problem

There is an obstacle, and it is decisive for who could be holding such a position. Freedom Fuel Network, LLC was incorporated on 23 June 2026. Its website domain was registered on 13 June. The entity did not exist during the window in which a valuable forward position could have been taken. It cannot have held one.

That leaves two possibilities. Either the position sits with a predecessor, affiliate, supplier or owner and was assigned, novated or passed through to the network - a transfer that would leave no trace in any public record this analysis can reach - or a forward position is simply not the mechanism, and the residual is funded some other way. The reporting offers one entity of the right character: the Courier-Post reported on 10 July that the five New Jersey stations are held by a Chicago-based real-estate portfolio group. A firm of that type is capable of carrying a commodity position; whether it did is entirely unknown.

Why forgoing the advantage is the real anomaly

The most revealing feature of this network is not that it prices low. It is that it prices low instead of doing the obvious thing. A commercial holder of a \$1.22 advantage does not hand it to motorists ten cents at a time. They sell at the prevailing market price and bank the difference - that is what a cost advantage is for, and every participant in this market is acutely price sensitive. Selling roughly forty cents below the market, while holding an edge several times that size, is a deliberate decision to forgo arbitrage.

That decision, not the price, is the thing that requires explanation. Earned media and a presidential endorsement have real value, but they are difficult to reconcile with surrendering an advantage of this magnitude across twenty-five sites. Something other than ordinary commercial motive is shaping this pricing.

What this section does and does not establish

A forward position is not a subsidy. Nobody gives the holder money; they simply bought early and were right. So this mechanism is fully consistent with the White House's statement that no entity or person is subsidising the discount - while also explaining a price that the White House's own stated reason, reduced margins, mathematically cannot reach.

But the reader should be clear about the limits. No evidence has been found that any such position exists despite the commonness of this type of fuel hedging, small stations rarely have future financial position planning analysis capabilities.

This report establishes that a mechanism of sufficient magnitude was available during a window that closed before the network was incorporated. It does not establish that the mechanism was used. That distinction is the difference between an explanation and an allegation, and it matters. What would settle it is narrow and specific: position records, supplier contracts, and the identity of whoever holds them.

Probability that a pre-war forward position, carried in from before the LLC creation, is materially funding the discount: approximately $p=0.40$, which is a statistically significant probability, and higher than all other data derived possibilities.

Conclusions

Most likely explanation - composite $P \approx 0.45$

Pre-spike inventory, a zeroed retail margin, unbranded sourcing and a pre-war forward position, in combination. No external subsidy is required for the observed prices. Under this model the government's claim and the employee's claim are both true, measured against different cost bases: the station's posted cost versus the holder's actual cost. The confidence here is lower than the earlier draft of this analysis carried, and deliberately so. Sixty days of market data showed that the first three mechanisms, even granted every favourable assumption, close only about half the gap. The fourth closes it easily but cannot be evidenced, and the entity was incorporated after the window for taking it had shut.

Most likely physical source - $P \approx 0.35$ each

PBF Delaware City and PBF Paulsboro together account for an estimated 0.65 of the molecules, delivered through the Twin Oaks and Sunoco Philadelphia racks. PBF Paulsboro is the single most probable individual asset in the chain, because it is the only refinery positioned to reach both station clusters and it produces unbranded gasoline - the product a de-branded network needs.

Next strongest possibility - $P \approx 0.20$

Gulf Coast product arriving via Colonial Pipeline and marine import into the same New York Harbor and Delaware River tannage. This cannot be excluded and cannot be confirmed. If a material share of the network's fuel originated 1,500 miles away on Colonial's mainline, nothing in the public record would reveal it.

The anomaly that matters most - forgone arbitrage, $P \approx 0.75$

On term advantage alone, a supplier holding known forward contracts can price roughly \$0.032 to \$0.048 below spot-exposed competitors. With a pre-war forward position the available edge is far larger - up to \$1.22 per gallon on January's curve. Yet every player in this market is highly price sensitive, and those holding lower costs ordinarily maximise momentary market arbitrage: they sell at the prevailing price and bank the difference. These stations did not. Forgoing an advantage of that magnitude across twenty-five sites is difficult to attribute to marketing value alone. That something other than ordinary commercial motive is shaping this pricing is the best-supported inference in this paper.

What caused it is a separate question, and a far less certain one. It could be the owner's own political alignment, which requires no contact with anyone and explains the same facts. Or a known set of advantaged providers may have been approached to deploy that advantage when contract-to-spot gaps appeared - a possibility Benjamin Zycher raised in RealClearMarkets on 14 July while noting that no one has been able to establish it. That specific attribution carries probability ≈ 0.30 : it would contradict the White House's wording, no evidence supports it, and a self-motivated owner accounts for the same behaviour without it. Neither is currently falsifiable. Both are testable - see below.

What Would Change the Answer

This analysis makes a prediction, and predictions can fail.

- If prices continue climbing toward market through late July, the inventory-timing mechanism is confirmed and the story is ordinary supply-chain economics.
- If prices stay pinned 10 to 20 cents below rack past roughly three tank turns - about three weeks - inventory can no longer explain it, and probability mass shifts hard toward an outside party funding the discount.
- Underground storage tank registrations in Pennsylvania and New Jersey list operators and responsible parties per site.
- Pennsylvania liquid fuels tax licenses and New Jersey motor fuel licenses sometimes name the licensed distributor of record.
- The parcel-owner entities already identified for 19 of the 25 sites are the thread to pull for local business licenses.

Technical Brief: FuelTrust Supply Chain Detective

FuelTrust's Supply Chain Detective is built on U.S. Patent 12,130,801, Non-Fungible Tokens for Tracking Fungible Assets, issued 14 July 2026 from application 18/610,730 and published as US20240242180A1. Inventors: Jonathan Arneault and Darren Shelton. The patent is held by Texas High Tech Holdings, Inc. and licensed to FuelTrust.

The claimed method addresses precisely the problem this paper runs into. Claim 1 is expressly limited to petroleum. It covers generating tokens that represent the chemical composition of a fuel at a point in its lifecycle, then using a machine learning model to compare records across a distributed ledger, identify what changed in that composition, and mint further tokens representing the delta. As the specification puts it, the resulting forensic analysis can help identify the source of a resource and how it has changed since extraction.

Applied to a retail fuel network, the method treats each custody event - refinery gate, pipeline batch, terminal receipt, rack lift, truck compartment, station tank - as a record carrying a chemical signature. Where signatures reconcile across a chain under a mass-balance constraint, the chain is corroborated. Where they diverge, the divergence localizes to a specific custody step. Fungibility stops being an insurmountable barrier and becomes a measurable mixing ratio.

FuelTrust applies this approach in the maritime bunker fuel market, where the same fungibility problem produces quantifiable fraud and quality disputes across a \$120 billion market.

AI Digital Chemist®

We were not able to utilize the chemical forensic analysis that would normally be utilized in a commercial or regulatory analysis, leveraging our patent-pending AI Digital Chemist, in order to assess the molecular proof of origin from end-point back through its origin tanks, refineries, and often to the well-heads.

That chemical analysis layer, AI Digital Chemist®, is the subject of application 17/722,906, Machine-Learning-Based Chemical Analysis, which is incorporated by reference in the 12,130,801 specification. It evaluates a fuel's parametric values - and the effects of time, temperature, sedimentation, humidity,

light exposure and oxidation on them - to determine whether and how a fuel's composition has changed between two points in a supply chain. Coupled with the Supply Chain Detective, origins across the entire life-cycle can be established.

What Was Not Available

No certificates of analysis or fuel samples were obtainable for this assessment.

No refinery COA, no terminal or jobber COA, and no station tank sample was available for any of the 25 Freedom Fuel Network locations. FuelTrust's patent-pending AI Digital Chemist® was therefore not run, and no forensic chemical analysis of this network's fuel was performed. Had those certificates and samples been available, FuelTrust's method is designed to resolve a fuel supply chain end to end at a 95 to 99 percent probability ratio - against the 0.35 ceiling that logistics reasoning alone can reach in this case. Every probability in this paper is a structured estimate built from public records, haul distances and pipeline connectivity. None of them is a measurement. The difference between those two things is the entire subject of the next section.

We want to be precise about the claim being made here. The 95 to 99 percent P-figure is FuelTrust's stated historical capability for its method where certificates and samples are available. It is not a claim about this analysis, which had neither available. Nothing in this paper was produced by AI Digital Chemist® as we had no source data for it.

Policy Implication: The Case for COA Availability

A certificate of analysis is not exotic. It is the routine laboratory report that already accompanies fuel at the refinery gate. It records octane, distillation curve, sulfur, vapor pressure, oxygenate content and trace metals - the chemical fingerprint of a specific batch.

Those certificates already exist. What does not exist is any requirement that they follow the fuel, use a common format, or be available to anyone downstream. A refinery COA travels to its direct customer and stops. A jobber may or may not issue one. Station tank fuel is sampled only when a weights-and-measures inspector or a contamination investigation forces it, and those results are not published in any parametric form.

The cost of that gap is visible throughout this paper. A question that chemistry answers in an afternoon instead consumed two weeks of public reporting by CNN, the Philadelphia Inquirer, NOTUS and ABC News - and remains unresolved.

What COA availability would enable

- Consumers could know what they are buying. Octane shortfall and contamination are invisible at the pump and expensive at the engine.
- States could regulate the fuel supply chain by exception rather than by inspection - testing where signatures diverge instead of sampling at random.
- Tax authorities could detect fuel laundering and cross-border diversion, both of which leave chemical traces.
- Environmental regulators could verify renewable volume obligations against the physical fuel rather than against paperwork.

- Legitimate distributors could prove provenance, rather than being tarred by the conduct of ones that cannot.

Fungibility is often described as a fact of nature. It is closer to an accounting convention. The molecules always knew where they came from. We simply stopped writing it down.

A question that chemistry answers in an afternoon has consumed two weeks of national reporting - and is still unresolved. The certificates exist. They are just not required to follow the fuel.

= END =

Disclaimers:

This report utilizes publicly available information, and information licensed by FuelTrust, Inc. No proprietary or confidential information was used in the research, analysis, or creation of this report.

“FuelTrust”, the FuelTrust logo, “AI Digital Chemist” and “Risk Provenance Platform” are registered trademarks of FuelTrust, Inc. “Supply Chain Detective” is a registered trademark, and used by license.

Appendix A: Station Locations

Twenty-five locations listed on the network's own site - 20 in Pennsylvania, 5 in New Jersey. Media outlets have not independently confirmed that every listed location is open.

State	County	Address
PA	Bucks	1360 Street Rd, Bensalem
PA	Bucks	905 Bristol Pike, Bristol Borough
PA	Bucks	299 E. Street Rd, Warminster Township
PA	Bucks	17 Street Rd, Upper Southampton Township
PA	Chester	1453 S. Hanover St., North Coventry Township
PA	Cumberland	811 Hartzdale Dr., Lower Allen Township
PA	Delaware	3919 Edgmont Ave., Brookhaven Borough
PA	Delaware	4612 Edgmont Ave., Brookhaven Borough
PA	Delaware	6800 East Baltimore Ave., Lansdowne
PA	Delaware	6601 Market St., Millbourne Borough
PA	Delaware	400 Baltimore Pike, Springfield
PA	Delaware	610 Conchester Hwy., Upper Chichester Township
PA	Montgomery	3201 Ridge Pike, Lower Providence Township
PA	Montgomery	1400 Dreshertown Rd, Upper Dublin Twp. (first station)
PA	Philadelphia	10960 Bustleton Ave.
PA	Philadelphia	3101 N Broad St.
PA	Philadelphia	100 Byberry Rd.
PA	Philadelphia	6243 Chestnut St.
PA	Philadelphia	4043 Germantown Ave.
PA	Philadelphia	2200 Island Ave.
NJ	Atlantic	6501 Delilah Rd, Egg Harbor Township
NJ	Atlantic	6801 Tilton Rd, Egg Harbor Township
NJ	Ocean	1520 County Rd 539, Little Egg Harbor Township
NJ	Burlington	160 NJ-73, Marlton
NJ	Camden	898 NJ-73, West Berlin

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About FuelTrust

FuelTrust is a technology company delivering Measurement, Intelligence and Verification across the fuels and environmental lifecycle - from earth to emissions. FuelTrust exists to fuel trust between participants in the energy market by delivering truth, permissioned transparency and science-based insight.

FuelTrust's products include Bunker Insights, Carbon Baseline, Supply Chain Detective and AI Digital Chemist®. The company holds multiple patents in fuel provenance, chemical analysis and supply chain verification.

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Route lines on any accompanying maps are road routes shown for illustration and do not represent surveyed pipeline right-of-way. The authoritative public source for pipeline routing is the PHMSA National Pipeline Mapping System.

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