DOCKETED	
Docket Number:	23-ICFAC-01
Project Title:	Independent Consumer Fuels Advisory Committee
TN #:	261971
Document Title:	Second Meeting of the Independent Consumer Fuels Advisory Committee Presentation
Description:	This document supersedes TN 261958
Filer:	Mikayla Roberts
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/25/2025 2:45:12 PM
Docketed Date:	2/25/2025

Second Meeting of the Independent Consumer Fuels Advisory Committee

February 25, 2025

Housekeeping

- **Meeting is being recorded.** 

- **Comments are welcome at the end of the presentation.**
- **Zoom:**
  - Use the “raise hand” feature.
- **Zoom/phone participants, when called upon:**
  - Your microphone will be opened.
  - Unmute your line.
  - Spell your name and provide your affiliation for the record before beginning your comment.

Agenda

- **Introduction**
  - Aleecia Gutierrez, CEC, Energy Assessments Division, Director
- **Opening Remarks**
  - Siva Gunda, CEC Vice Chair
  - Tai Milder, DPMO Director
  - Drew Bohan, CEC Executive Director

Agenda (Continued)

- **Presentation**
  - Overall Gasoline Supply Chain and Inventory Systems
- **Committee Discussion On Proposed Resupply Requirements**
- **Public Comment**
- **Closing Remarks and Adjourn**

Opening Comments

Overall Gasoline Supply Chain and Inventory System

Dave Hackett, Consultant, Stillwater Associates

California Gasoline Market Overview

Independent Consumer Fuels Advisory Committee

2.25.25

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Stillwater Associates LLC conducted the analysis and prepared this report using reasonable care and skill in applying methods of analysis consistent with normal industry practice. All results are based on information available at the time of preparation. Changes in factors upon which the report is based could affect the results. Forecasts are inherently uncertain because of events that cannot be foreseen, including the actions of governments, individuals, third parties, and competitors. Nothing contained in this report is intended as a recommendation in favor of or against any particular action or conclusion. Any particular action or conclusion based on this report shall be solely that of California Department of Tax and Fee Administration. NO IMPLIED WARRANTY OF MERCHANTABILITY SHALL APPLY. NOR SHALL ANY IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE.

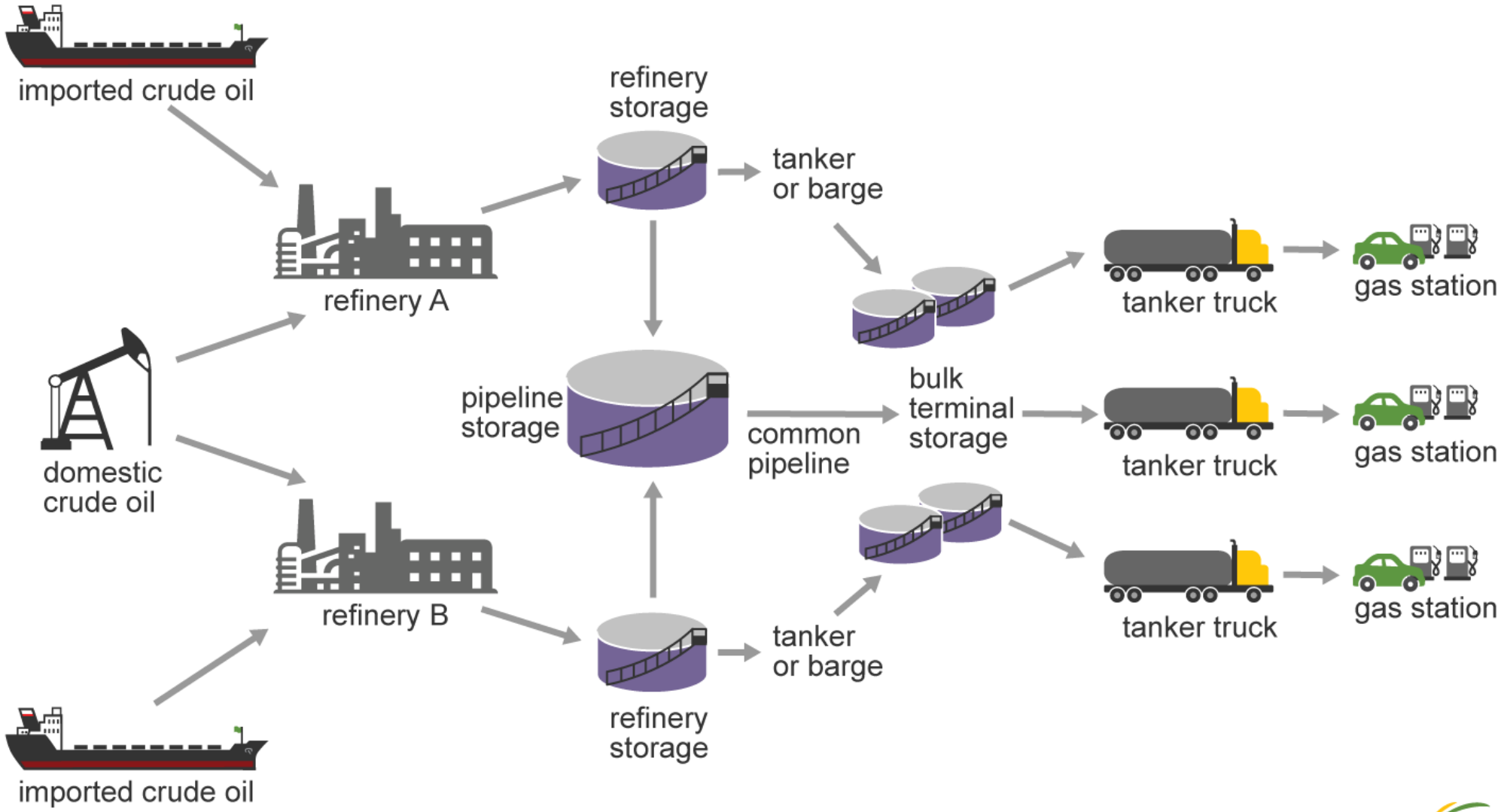
Fueling the future of transportation energy with trusted industry experience

1. Stillwater Associates leverage decades of experience to help clients navigate transportation fuels market challenges. **We see things others miss.**
2. Our clients: government agencies, petroleum and renewable fuels companies, trade associations, technology developers, private equity firms, and law firms.
3. Leading experts on transportation fuel supply and demand issues, the regulatory environment for transportation fuels in California, and the impact of California taxes and fees on retail markets.
4. Trusted advisors to clients in state and federal government including the CEC, CA DOJ, CARB, EIA, DOE, and EPA on issues including fuel taxes, regulatory incentives, and anti-trust concerns.
5. **Questions about California's transportation fuels market?** Our team of experts is available to provide specific analysis and tailored strategy for your needs.

Agenda

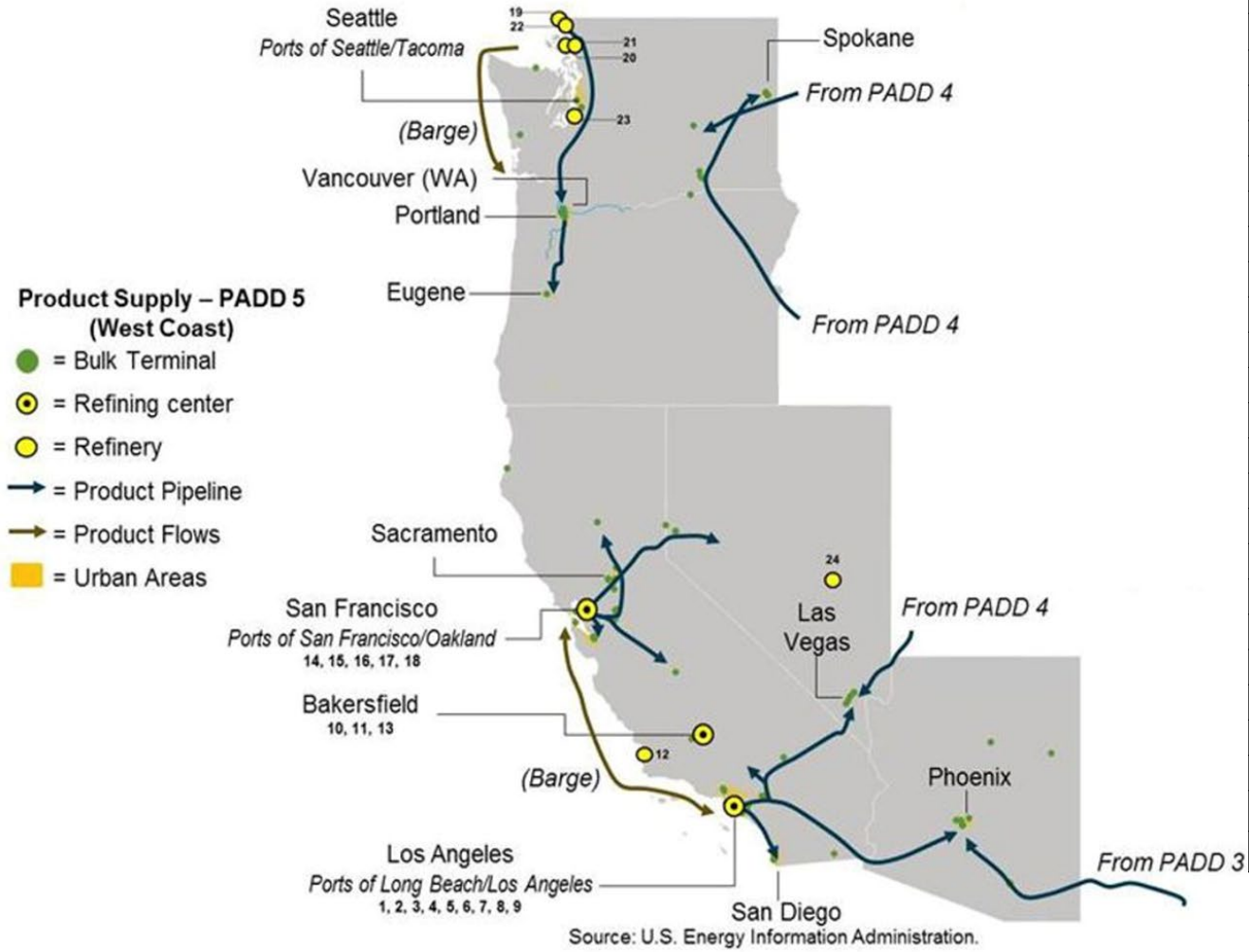
1. **How does gas get to a gas station?**
2. How is the market structured?
3. How are prices set?
4. How do refiners plan their maintenance turnarounds?

Flow of crude oil and gasoline to your local gas station



Source: U.S. Energy Information Administration

The West Coast has 3 major refining centers



Num	Company	Location	Capacity (bbls/day)
1	Chevron	El Segundo	269,000
2, 5	Marathon	Los Angeles	363,000
3	PBF	Torrance	160,000
4	Phillips 66*	Wilmington	139,000
6	World Energy- Renewables	Paramount	2,700
7	Valero	Wilmington	85,000
8	World Oil	South Gate	8,500
9	Valero (Asphalt)	Wilmington	6,300
10	Kern Oil	Bakersfield	26,000
11	San Joaquin Refining	Bakersfield	15,000
12	Phillips 66	Santa Maria	Idle
13	Global Clean Energy	Bakersfield	Converting to Renewables
14	Chevron	Richmond	245,271
15	Marathon - Renewables	Martinez	17,000
16	PBF	Martinez	156,400
17	Valero	Benicia	145,000
18	Phillips 66 - Renewables	Rodeo	51,000
19	BP	Ferndale	238,500
20	HF Sinclair	Anacortes	145,000
21	Marathon	Anacortes	119,000
22	Phillips 66	Ferndale	105,000
23	PAR Petroleum	Tacoma	40,700
24	Foreland Refining	Ely	2,000

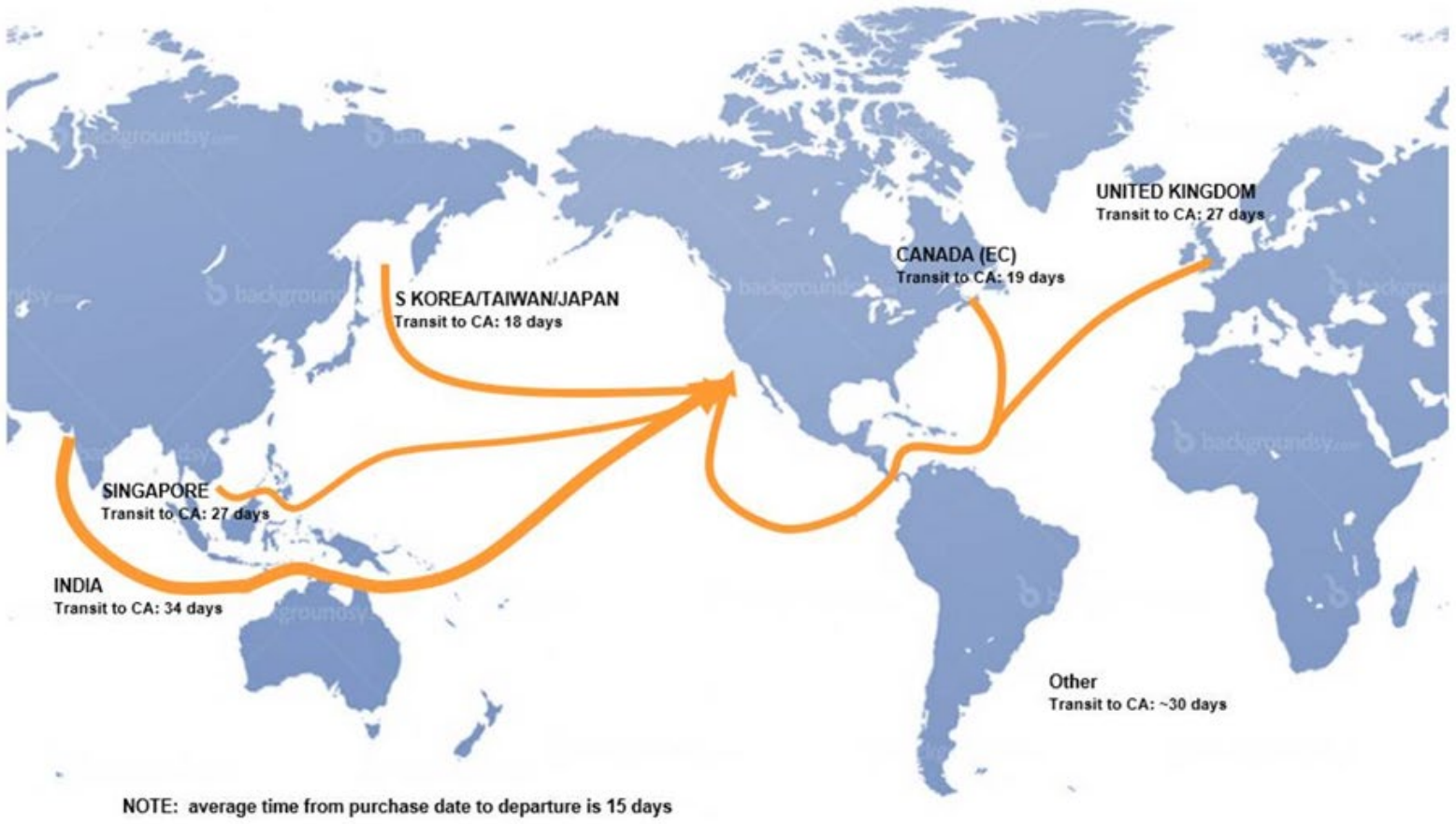
*Announced ceasing refining operations in 4Q 2025

eia

Product imports and exports from the West Coast are all on tankers, there no pipelines from East of Rockies

Source: EIA PADD 5 Transportation Fuels Markets, 2015

Because gasoline production falls short, additional supply comes by tanker from around the globe.



Source: Stillwater Analysis

The tanker deliveries are priced relative to the New York Mercantile Exchange NYMEX or other benchmark prices in major markets like Singapore or Los Angeles

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The oil markets are structured around title transfer locations, with pricing referenced to the New York Mercantile Exchange (NYMEX)

Crude Oil Refinery

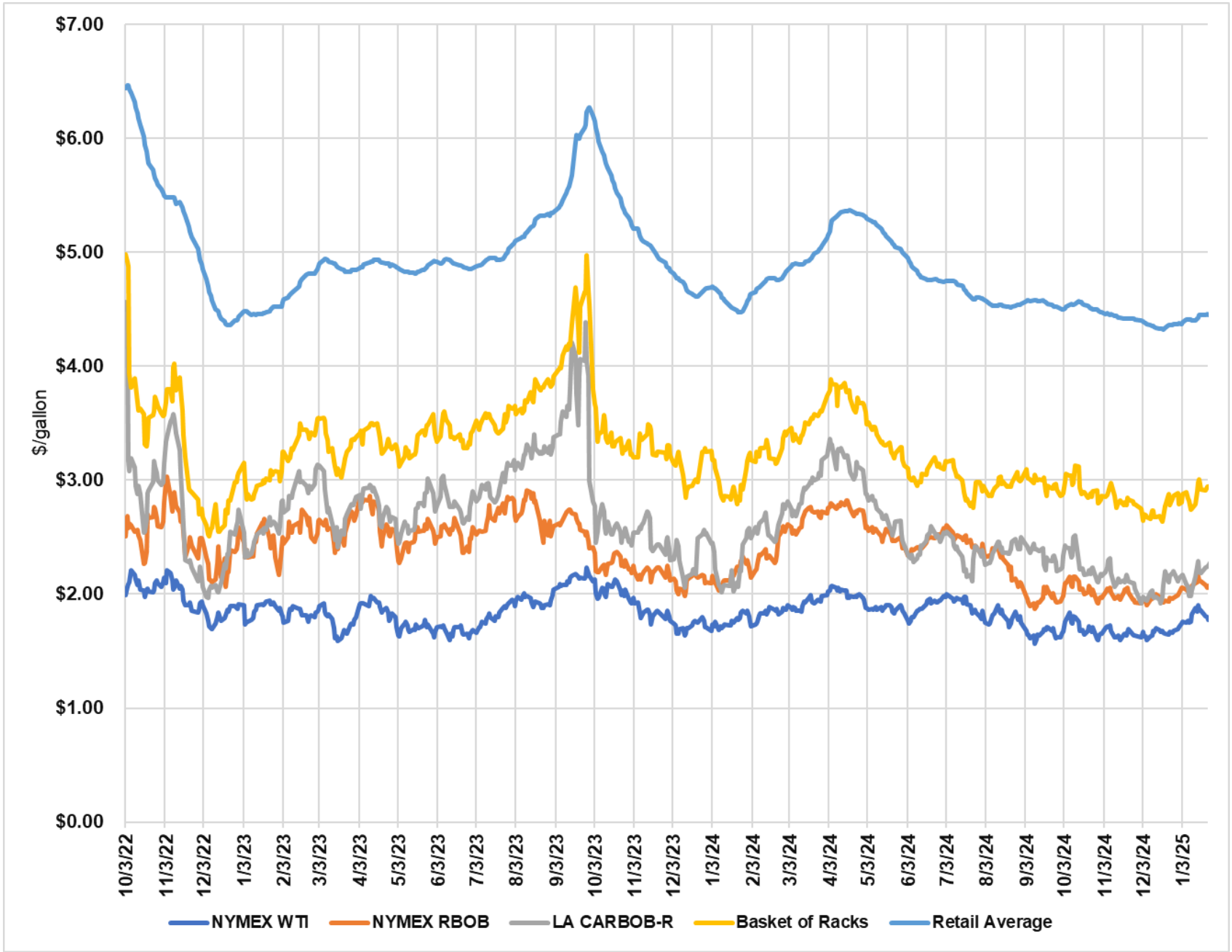
Spot Gasoline at Pipeline Hub

Truck Loading at the Rack

Delivered to the Station

Sold to Consumers

This chart plots most of the relevant prices in the supply chain



Los Angeles Average Retail

Los Angeles "Basket of Racks"

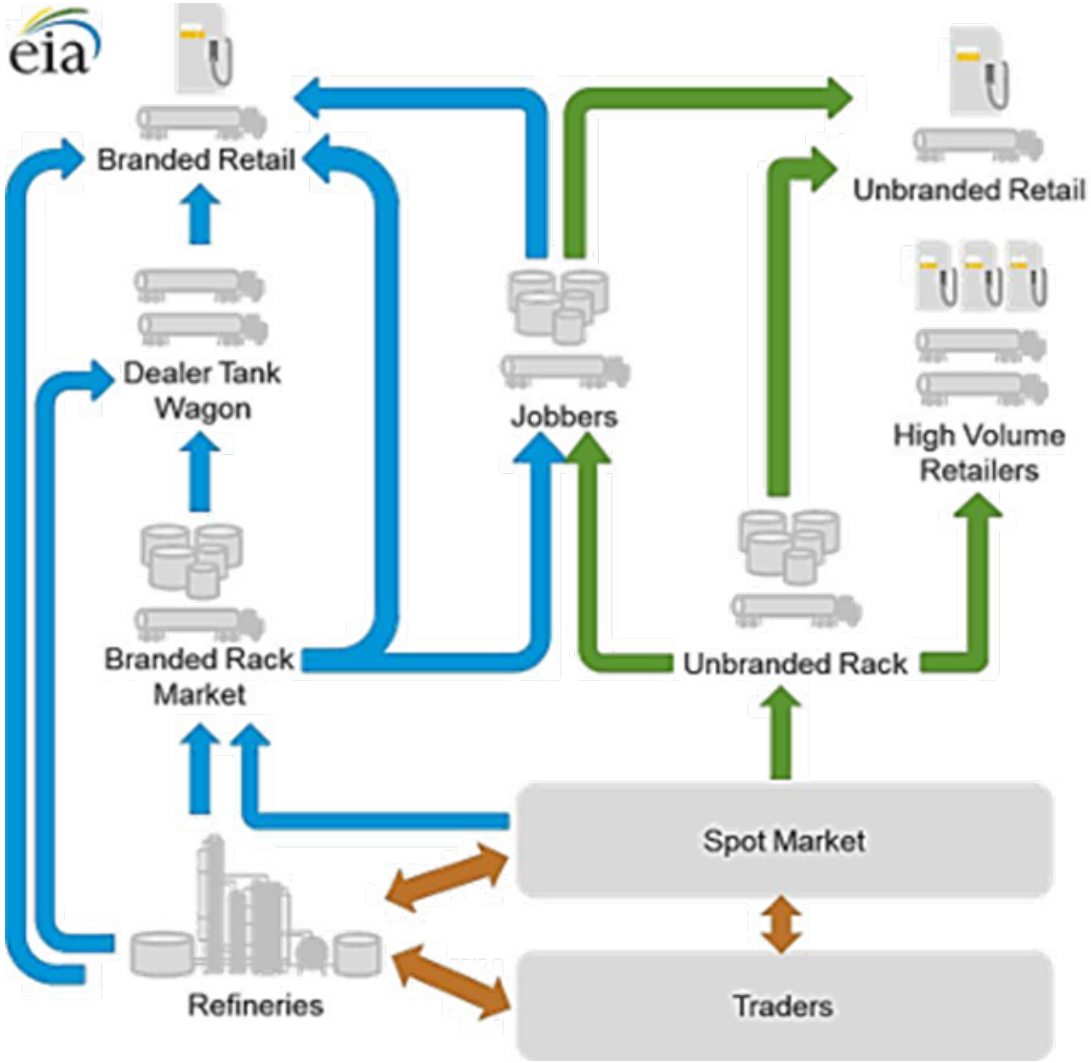
LA Spot CARBOB

NYMEX RBOB

NYMEX Crude Oil (WTI)

Source: OPIS & Stillwater Analysis

The gasoline retail market is complex



This illustrates distribution beyond the truck rack to customers

Source: PADD 5 Transportation Fuels Markets, 2015

The structure of the retail market is not what it seems from the driver's seat.

United PACIFIC

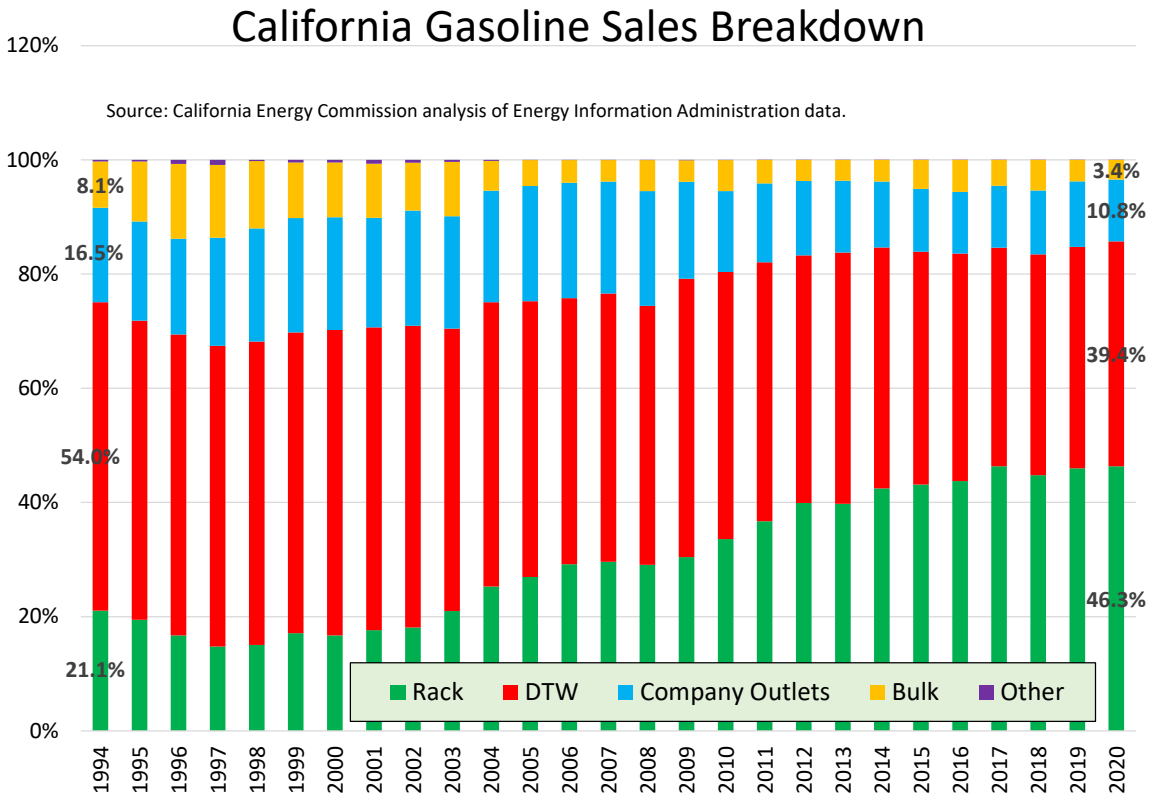
You can't tell who is supplying the gasoline by looking at the station brand sign

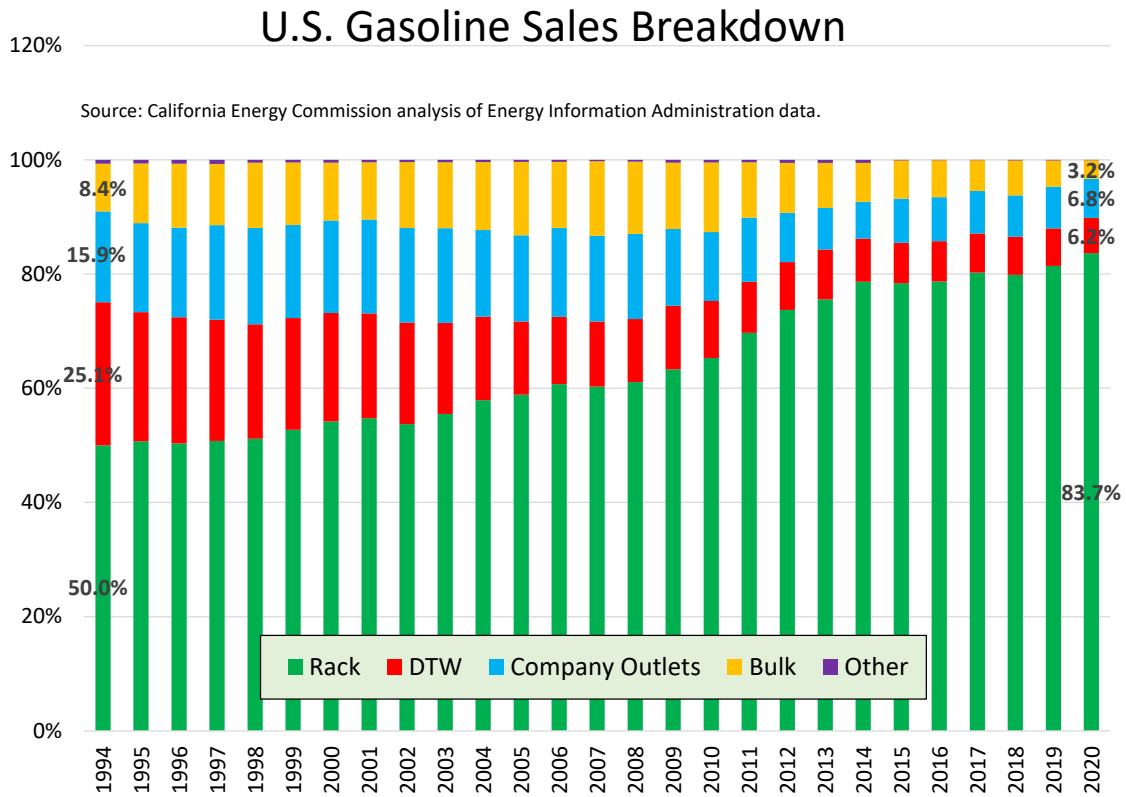
The retail market has many classes of trade

A supplier will price the distinct classes of trade differently as a function of the contracts between the suppliers and their customers. Some suppliers focus on Company Operated and Lessee Dealers, others on Jobbers and Hypermarkets.

Source: OPIS Blog & Stillwater Analysis

EIA used to track where wholesale prices are set in the supply chain



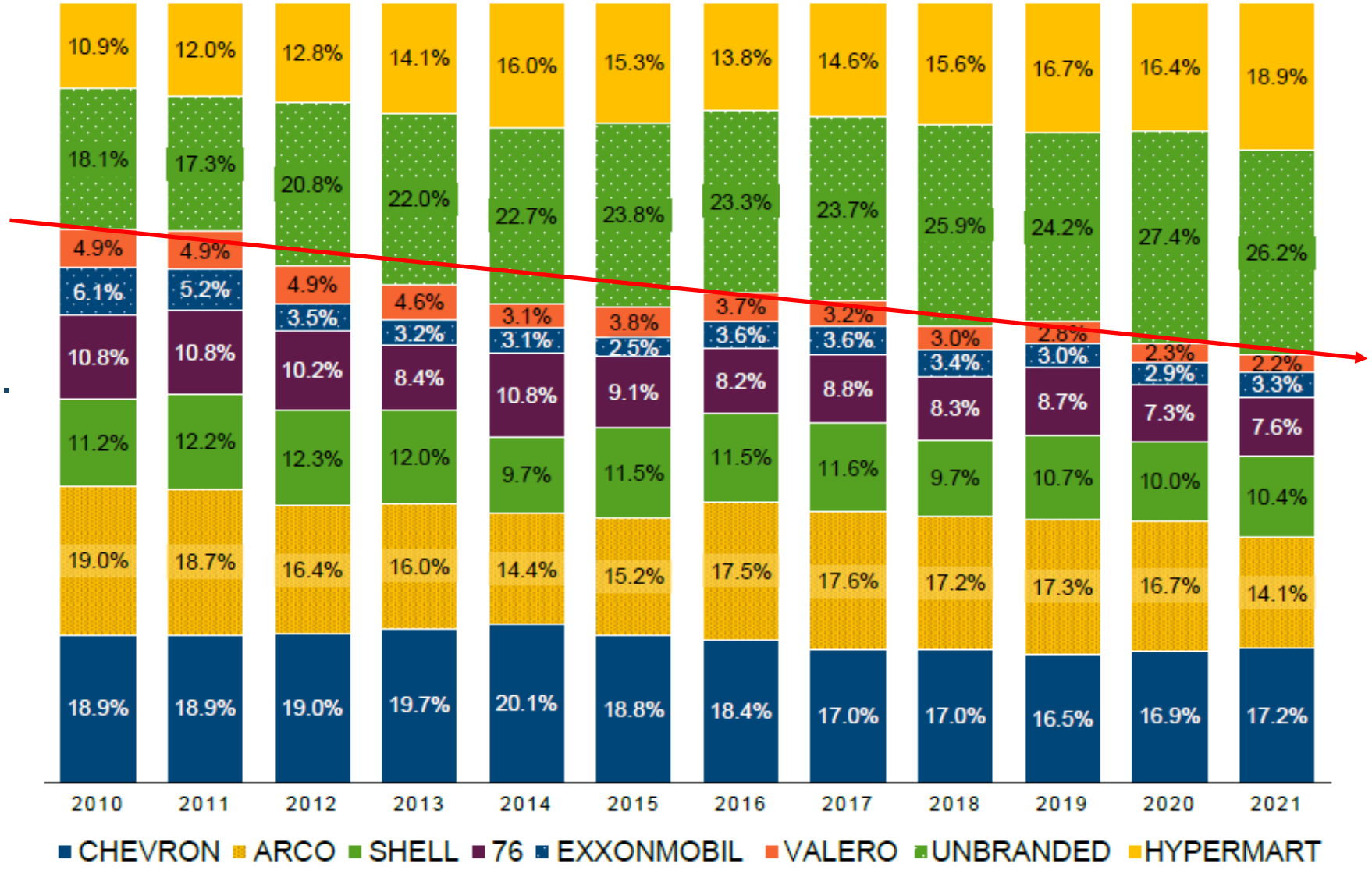


The % of Dealer Tankwagon (DTW) sales are much higher in California than the national average. The DTW is generally set by the integrated refiner like Chevron, Marathon, or BP. DTW is AKA as Dealer Buy Price or DBP.

California retail market shares by company

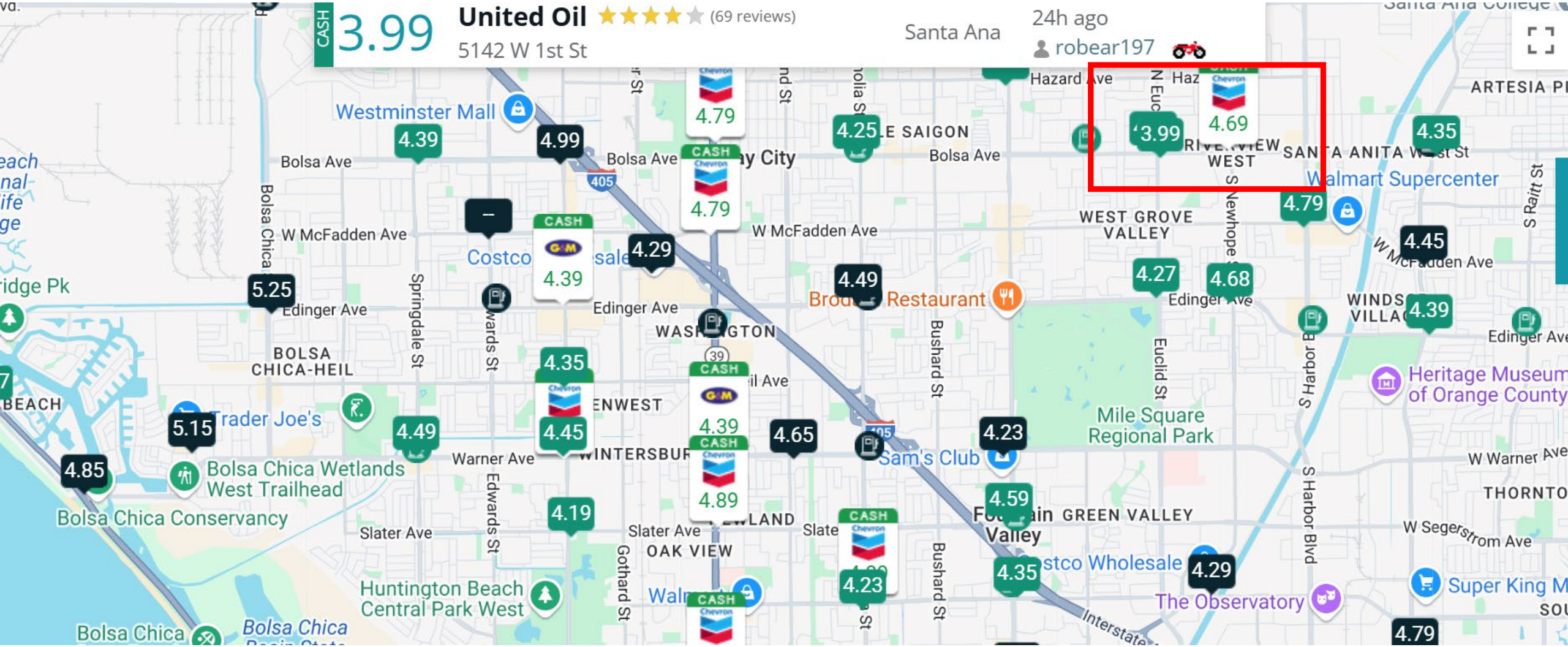
The high price brands have slowly lost market share to the Hypermarts and Unbranded over time.

Stillwater estimates that Branded market share is now less than 50% of the market.



Source: California Retail Fuel Outlet Annual Reporting (CEC-A15)

Here is an example of the wide spreads in retail prices in a slice of Orange County



Source: Gas Buddy

The highest prices stations are the major brands, lowest are generally Hypermarts or in the Unbranded category.

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4. How do refiners plan their maintenance turnarounds?

What are the “dynamics” of price movement?

1. The typical objective of the retailer is to maximize profit.
2. The three factors driving profit are volume, price, and operating cost.
3. Companies watch their competitors closely to determine what changes they want to make in their wholesale and retail prices.
4. When the “replacement cost,” i.e., the spot price, moves up, rack, DTW, and street prices follow quickly to retain margin.
5. However, when replacement costs move down, rack generally follows, but DTW and street prices lag.
6. Companies can offer incentives or discounts on pricing.

Generally, there is a “first mover” who leads the pack

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This illustrates a typical California refinery process flow

Description of a planned turnaround

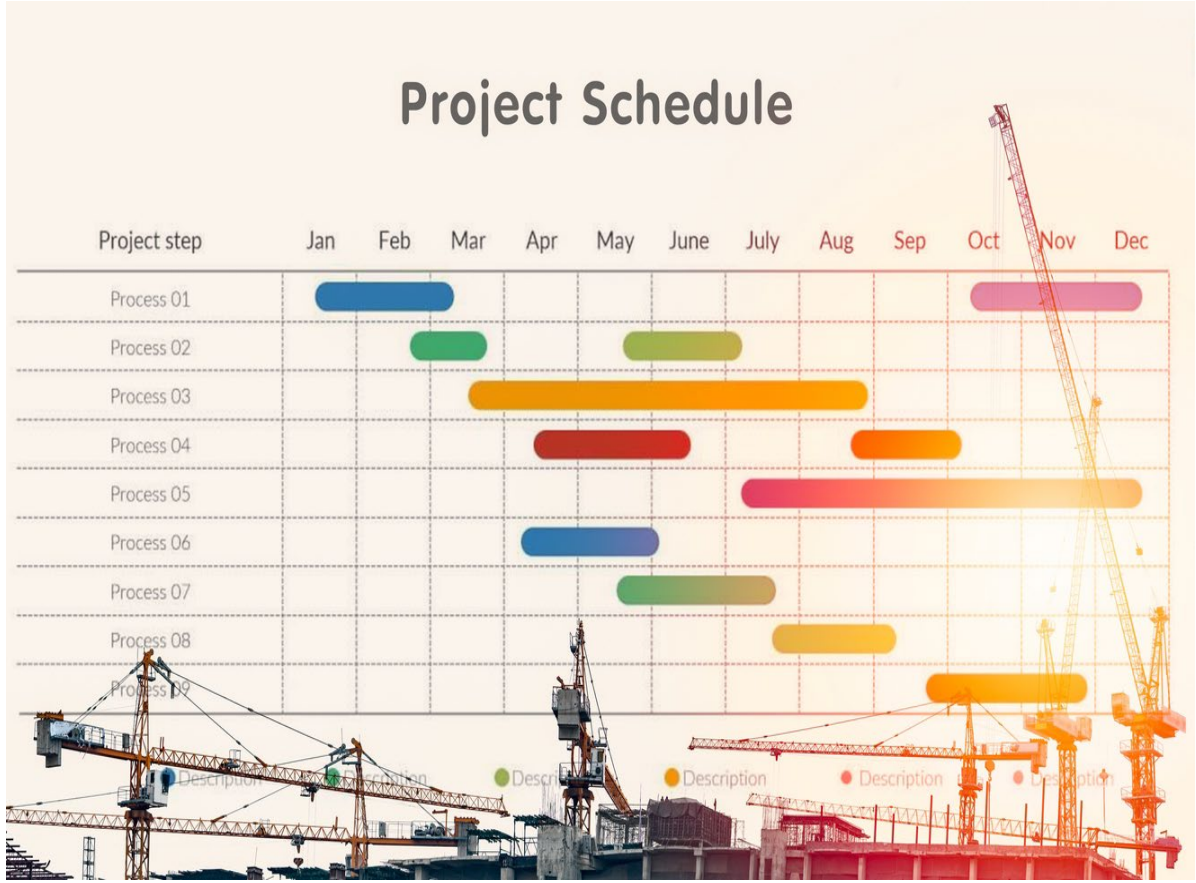
1. An oil refinery is made up of a number of processing units that require routine maintenance.
    1. This includes inspection, repairs, catalyst replacement or regeneration, upgrading to a new technology, or replacement of equipment that has reached the end of its service life.
    2. A process unit that is down for maintenance is said to be in turnaround.
    3. The turnaround cycle for each unit can vary from as little as three months to as long as five years, depending on permitting requirements, severity of operating conditions, market conditions, unit performance, etc.
2. Major turnarounds occur at 4- or 5 -year intervals
    1. The refiner typically brings down its crude unit, catalytic cat cracker, hydrocracker and/or coker.
    2. Duration is often 40-55 days as a function of the work required.

Source: Stillwater Associates Strategic Fuels Reserve Study, Page 67

The refiners start planning more than a year before the work starts

1. They define the scope of work, estimate the costs, and obtain budget approvals.
2. The planning work starts more than a year before the event.
3. Much of the maintenance is done by contractors, so there are processes for selecting contractors and arranging for specialized equipment, like large cranes.
4. These events generally take place outside of the high-demand season or during major holidays like Christmas and Thanksgiving.
5. Refiners do not coordinate planned turnarounds with one another, but they do become aware because of common maintenance contractors and equipment suppliers.
6. Once the timing of a major turnaround is locked in, it is expensive to change the timing on short notice.

A planned turnaround includes the planning to continue to supply customers when production drops



1. Resupply planning begins about a year in advance
   a. Plans start to get executed once the turnaround shows up in the **120 Day Schedule** - the basic supply/demand planning tool used by all refiners.
2. The company predicts if the market will be long or short. This helps them decide if the marginal barrel is produced onshore or is an import.
3. They identify their company's long- and short-term commitments.

Companies determine the most economic way to cover the production shortfall

The options include:

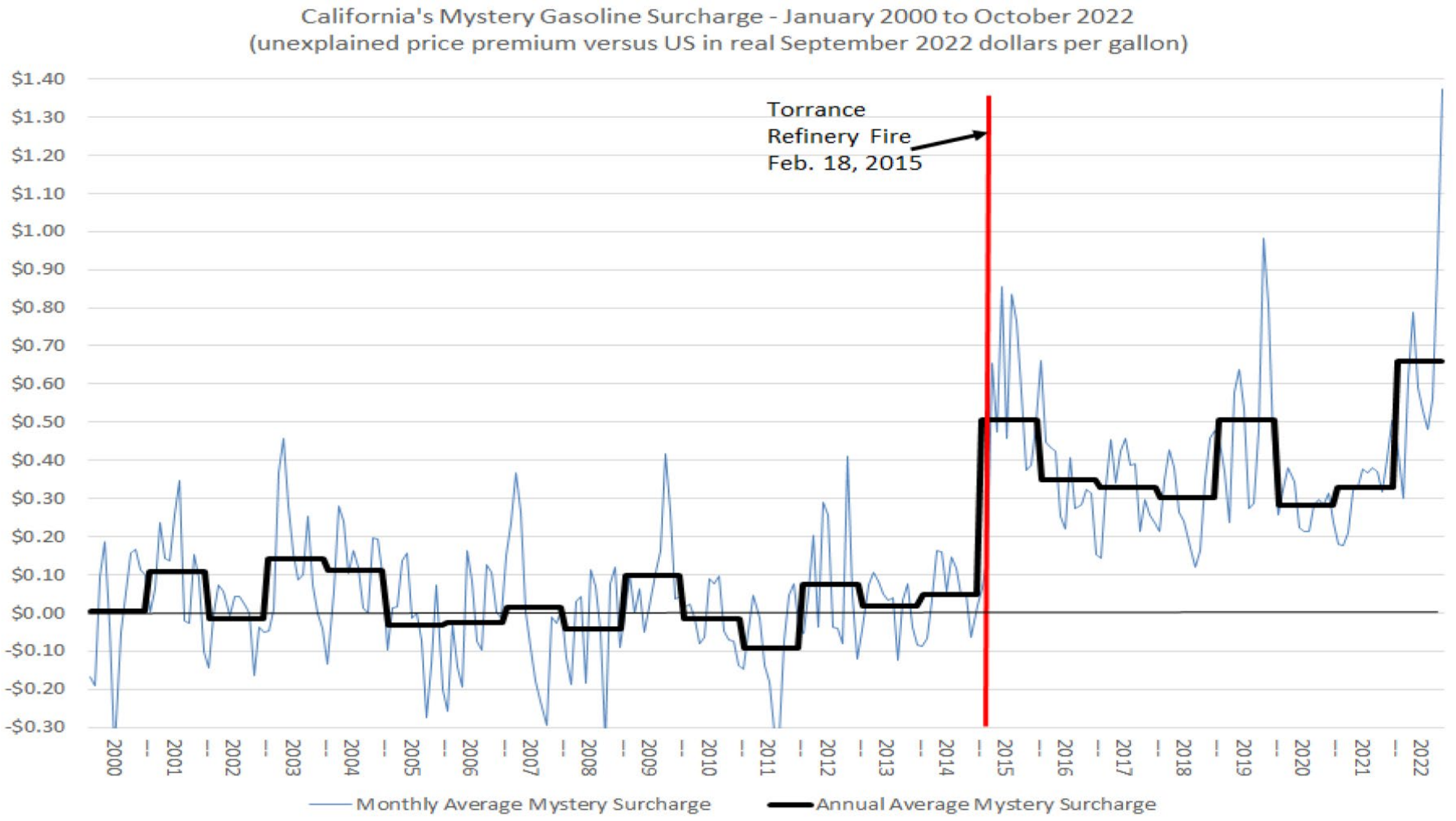
1. Building inventory by reducing short-term sales, increasing local purchases, and bringing in foreign imports.
   a. They figure out how much inventory build and at which locations.
2. Purchasing from local sources with delivery during the turnaround.
   a. Determine the location of the receipts, i.e. Kinder Morgan Watson, KM Concord, and/or delivered into leased storage.
   b. Note, this local supply might have been imported.
3. Contract for foreign imports to balance
   a. Determine grade, receipt location, and timing

Turnaround planning includes managing customer contracts

1. Refiners will honor their contracts with customers.
2. The branded supply goes to branded stations.
3. The long-term unbranded supply goes to stations with long term contracts with the refiner or wholesaler.
4. The short-term unbranded supply is lifted from the racks that have the best price.
    a. Refiners do have contracts that are based on price. If the customer likes the refiner's price, he can load at the refiner's rack.
    b. If the market is short, unbranded rack price go up faster than branded rack prices.
    c. Wholesalers scramble to cover their short-term contracted unbranded stations.
    d. Prices rise if the market is short.

Thank you.

Questions?


California's Mystery Gasoline Surcharge - January 2000 to October 2022
(unexplained price premium versus US in real September 2022 dollars per gallon)
$1.40
$1.30
$1.20
$1.10
$1.00
$0.90
$0.80
$0.70
$0.60
$0.50
$0.40
$0.30
$0.20
$0.10
$0.00
-$0.10
-$0.20
-$0.30
Torrance
Refinery Fire
Feb. 18, 2015
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Monthly Average Mystery Surcharge
Annual Average Mystery Surcharge

According to the Wall Street Journal:

“There is less competition among California’s retail fuel stations compared to other states.”

	Licensed Drivers	Gas Stations	Drivers per Station
California	27,000,307	8,490	3,180
Rest of US	201,195,693	136,510	1,474
US	228,196,000	145,000	

California as twice as many drivers per station than the rest of the country

This helps to explain why competition doesn’t force retail margins to U.S. average

“California Has a Gas-Price Mystery: Too High, But Why” Wall Street Journal, January 20, 2023

Committee Discussion

Comments

Written Comments

Please submit written comments to:

- Docket No. 23-ICFAC-01
- Due by 5:00 PM on March 11, 2025

Closing Remarks

Thank You!

Please reach out with questions to ICFAC@energy.ca.gov.

Drew Bohan
Executive Director
California Energy Commission

Aleecia Gutierrez
Director
Energy Assessments Division