California Gasoline Market Overview

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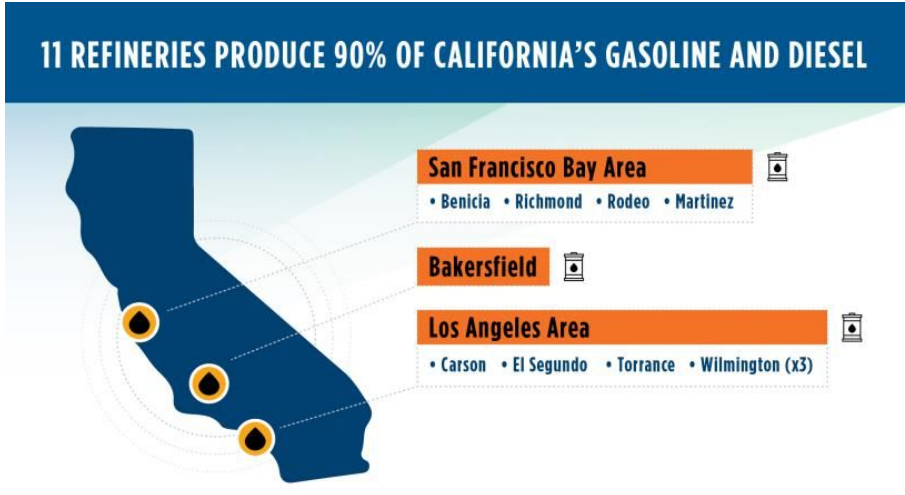
The California Gasoline Market Is Isolated and Concentrated

- CA refineries import the majority of **crude oil** from **abroad**
- They then process it into **refined products** like gasoline blendstock and diesel
- Limited **pipeline infrastructure** and **seaborne transportation** restricts out-of-state imports of gasoline
- **5 refiners control 98%** of CA-grade refining capacity
  - 11 refineries produce 90% of CA's gasoline and diesel



From Refineries to Gasoline Stations

- After CA refiners turn crude into gasoline blendstock, it can be:
  1. Sold in bulk on LA or SF "spot" markets
  2. Sold to retail gas stations at one of 14 "racks"
  3. Stored in inventores for future sale (first in, first out)

- After being piped to the rack, gasoline blendstock is **mixed with ethanol** and any brand-specific additives to produce gasoline

- **Trucks** then carry the gasoline from the rack to underground storage tanks at gas stations

- Obtaining gasoline from **out of state** (typically Europe or Singapore) can take **over a month**

Upstream Pricing Reflects Costs and Market Power

- To produce gasoline blendstock, refiners' must purchase **crude oil** and **other inputs** and pay for refinery **operating costs**.
- They then have to **transport it to a rack**, typically via pipelines
  - Rack prices typically exclude environmental credits and taxes, but may include some compliance costs
- To get gasoline from the rack to gas stations, **vertically-integrated** refiners often use **Dealer Tank Wagons (DTW)**, where they charge the gas stations an additional fee for transporting the gasoline via truck.
- Upstream market power is influenced by **online refining capacity, inventories,** and **out of state supply**
  - When a refinery goes off line, remaining refineries have more market power
  - When inventories are low, there is less available supply, raising market power
  - Difficulties with out-of-state imports also raises pricing power of in-state suppliers

Pump Pricing is Higher at Branded Stations, Exhibits Rockets and Feathers

- Retailer costs reflect **rack pricing,** last-mile **transport costs** (e.g., DTW), and **federal, state, and local taxes**

- **Branded retailers** purchase gasoline via **complex contracts** with upstream suppliers
  - The brand vs. non-brand price gap is larger in California that most states, possibly reflecting features of these contracts

- Retail prices exhibits a well-known **rockets & feathers** phenomenon
  - Prices shoot up “like a rocket” in response to cost increases
  - Float float down “like a feather” when costs decline
  - Implication: Prices can remain elevated well after market conditions stabilize