INSIDE THE CALIFORNIA SPOT GASOLINE MARKET

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Reasons for the California gasoline price typically being higher than the national average:

- **1**. CARB oxygenated blend gasoline costs 15 cents per gallon more to refine.
- **2**. Anti-global warning regulations add another 12.5 cent per gallon.
- **3**. Another 13 cents per gallon is added in California for gasoline federal, state excise and sales taxes over the national average per the American Petroleum Institute (API).

- Using the mathematics above the total difference in the average California gasoline price of $2.618 should only be 40 cents per gallon higher instead of 80 cents over the national average of $1.822 per gallon as of 1-28-16. The other 40 cents per gallon is being extricated for the risk California refiners are taking to operate in a state trying to put them out of business.

Reasons for the differential in spot market gasoline prices between Northern to Southern California

- PIPELINE SYSTEM IN CALIFORNIA
  - California's two pipeline networks owned by

INSIDE THE SPOT MARKET

REFINERIES

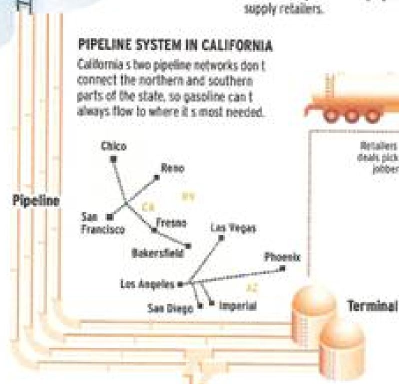
In-state refineries supply 90 percent of California-grade gasoline. They also supply most of Nevada and parts of Arizona and Oregon.

FACTORS:

- Only a handful of out-of-state and foreign refineries are capable of making California-grade gasoline, which is the cleanest-burning in the world.
- Refineries typically run at or near full capacity; any outage can lead to price increases.
- Refineries can be buyers or sellers in the spot market, depending on whether they have enough gasoline to meet contractual obligations to supply retailers.

PIPELINE SYSTEM IN CALIFORNIA

California s two pipeline networks don t connect the northern and southern parts of the state, so gasoline can t always flow to where it s most needed.



Retailers with prearranged deals pick up gasoline, while jobbers check prices.

❶ MAKING THE CALL

A **trader** buys and sells gasoline on the Los Angeles spot market. If the trader needs to buy to fulfill contractual obligations, he must pay whatever the market demands. Typical trade is 25,000 barrels of gasoline.

FACTORS:

- Because just a few dozen participants buy and sell in the spot market, prices can fluctuate faster than in a larger market.
- A sustained run-up in spot prices will signal to refiners that they can raise retail prices.

❷ INTO THE TUBE

Pipelines transport gasoline from refineries and ports to terminals. When traders purchase gasoline on the spot market, they arrange to have it delivered into the pipeline system. They pay a fee to move it through the pipeline.

FACTORS:

- Southern California s pipeline network (owned by Kinder Morgan Inc.) connects to Las Vegas and Phoenix, but not to Northern California or the Gulf Coast. Out-of-state supplies must come by ship or truck.

❸ LOADED INTO TRUCKS

Terminals are located throughout California where tanker trucks pick up gasoline for delivery to retail stations. Kinder-Morgan Inc. has a terminal in Orange.

FACTORS:

- A trader purchasing 25,000 barrels on the spot market might ship 10,000 barrels of it to a particular terminal, or rack, such as the one in Orange.
- Some of the 10,000 barrels are offered for sale at the rack to jobbers, fleet owners who supply independent stations. These rack prices typically reflect changes in spot prices.

❹ AT THE PUMP

Where you buy your gasoline.

FACTORS:

- Retail owners are at the mercy of prices set in the spot market, typically two weeks earlier. They often lose money when prices rise because competition among stations prevents owners from recouping their cost.
- Even when prices are stable, retail margins are a few pennies per gallon.

PORT

TANKER SHIPS

Tanker ships deliver gasoline (typically 250,000 barrels) made by out-of-state or foreign refineries.

FACTORS:

- Cargo delays drive up spot prices.
- Scarcity of on-shore storage limits the amount of cargo that can come in, contributing to tight supply.
- If spot prices in Los Angeles fall, ships may head to other ports where prices are higher.

REFINERIES

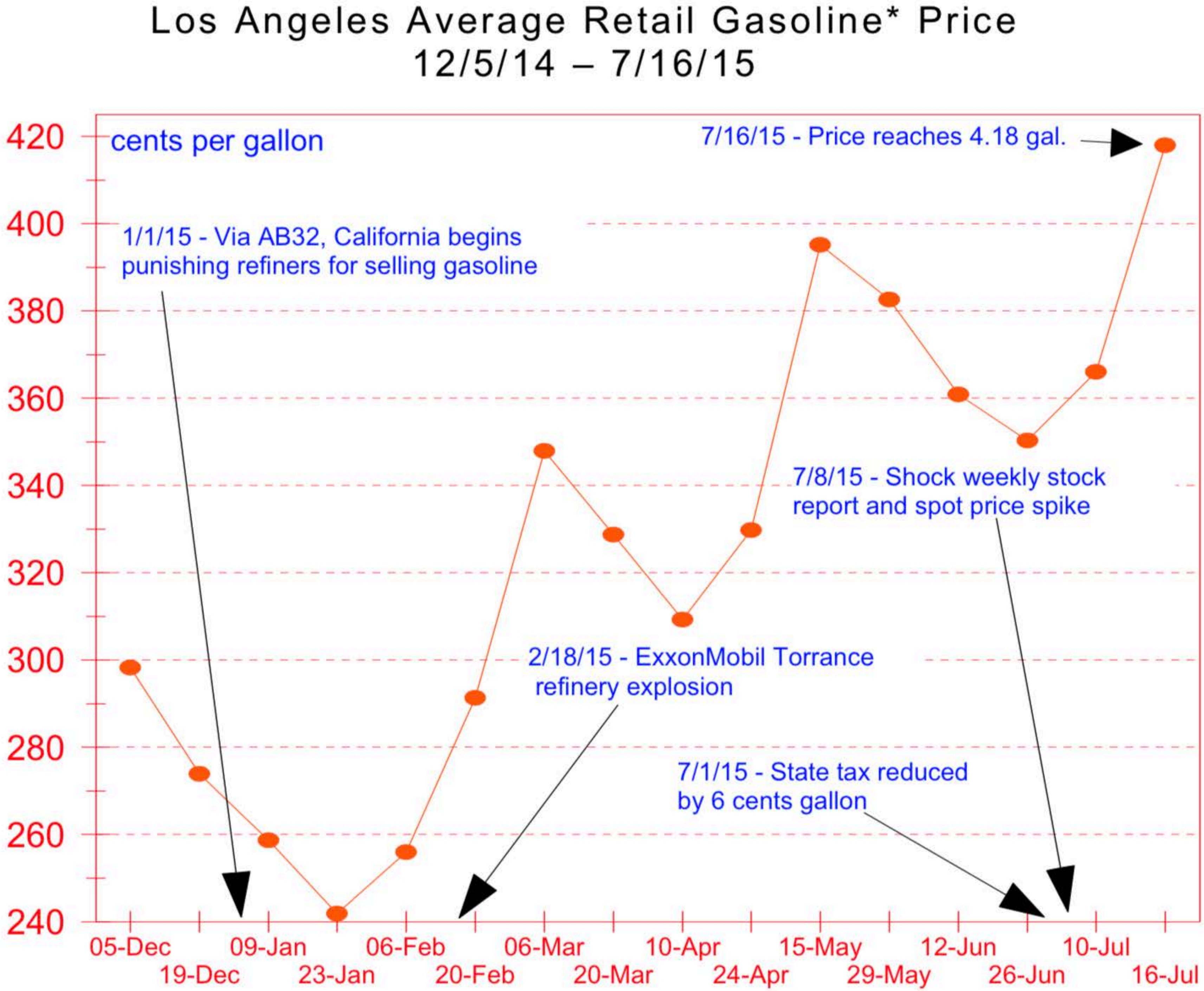
- In-state refineries when operating at full capacity supply 90 percent of California-grade gasoline. They also supply most of Nevada and parts of Arizona, Oregon & Washington as well as export gasoline to other countries. California accounts for 60% of PADD 5 gasoline demand.

FACTORS

- Only a handful of out-of-state and foreign refineries are capable of making California-grade gasoline, which is the cleanest-burning in the world. Refineries typically run at or near full capacity; any unplanned outages can lead to gasoline price increases.
- Refineries can be buyers or sellers in the spot market, depending on whether they have enough gasoline to meet contractual obligations to supply retailers. Retailers with pre-arranged supply contracts have gasoline delivered, while jobbers check prices daily and pick up product in proprietary and common carrier trucks. Terminals are located throughout California where tanker trucks pick up gasoline for delivery to retail stations.

TANKER SHIPS

- Tanker ships deliver gasoline cargoes from out-of-state or foreign refineries typically hold about 250,000 barrels (10 million gallons). Delays in arrival drive up spot prices and in turn Dealer Tank Wagon (DTW)* gasoline prices.
- • Scarcity of on-shore inventory storage limits the amount of cargo that can contribute to tight supply and in turn an increase in gasoline prices.
- *DTW is the dominant class of trade in the California wholesale to retail gasoline market. In Southern California DTW priced gasoline accounts for 75% of gasoline sold. The Lundberg Letter Chart below outlines the events affecting the gasoline prices in first half of 2015.



Los Angeles Average Retail Gasoline* Price
12/5/14 – 7/16/15
cents per gallon
420
400
380
360
340
320
300
280
260
240
1/1/15 - Via AB32, California begins
punishing refiners for selling gasoline
7/16/15 - Price reaches 4.18 gal.
7/8/15 - Shock weekly stock
report and spot price spike
2/18/15 - ExxonMobil Torrance
refinery explosion
7/1/15 - State tax reduced
by 6 cents gallon
05-Dec
19-Dec
09-Jan
23-Jan
06-Feb
20-Feb
06-Mar
20-Mar
10-Apr
24-Apr
15-May
29-May
12-Jun
26-Jun
10-Jul
16-Jul

FACTOR

- Retail owners are at the mercy of prices set in the spot market being typically set two weeks earlier. They often lose money when prices spike because competition among stations prevents owners from immediately recouping sudden price hikes.
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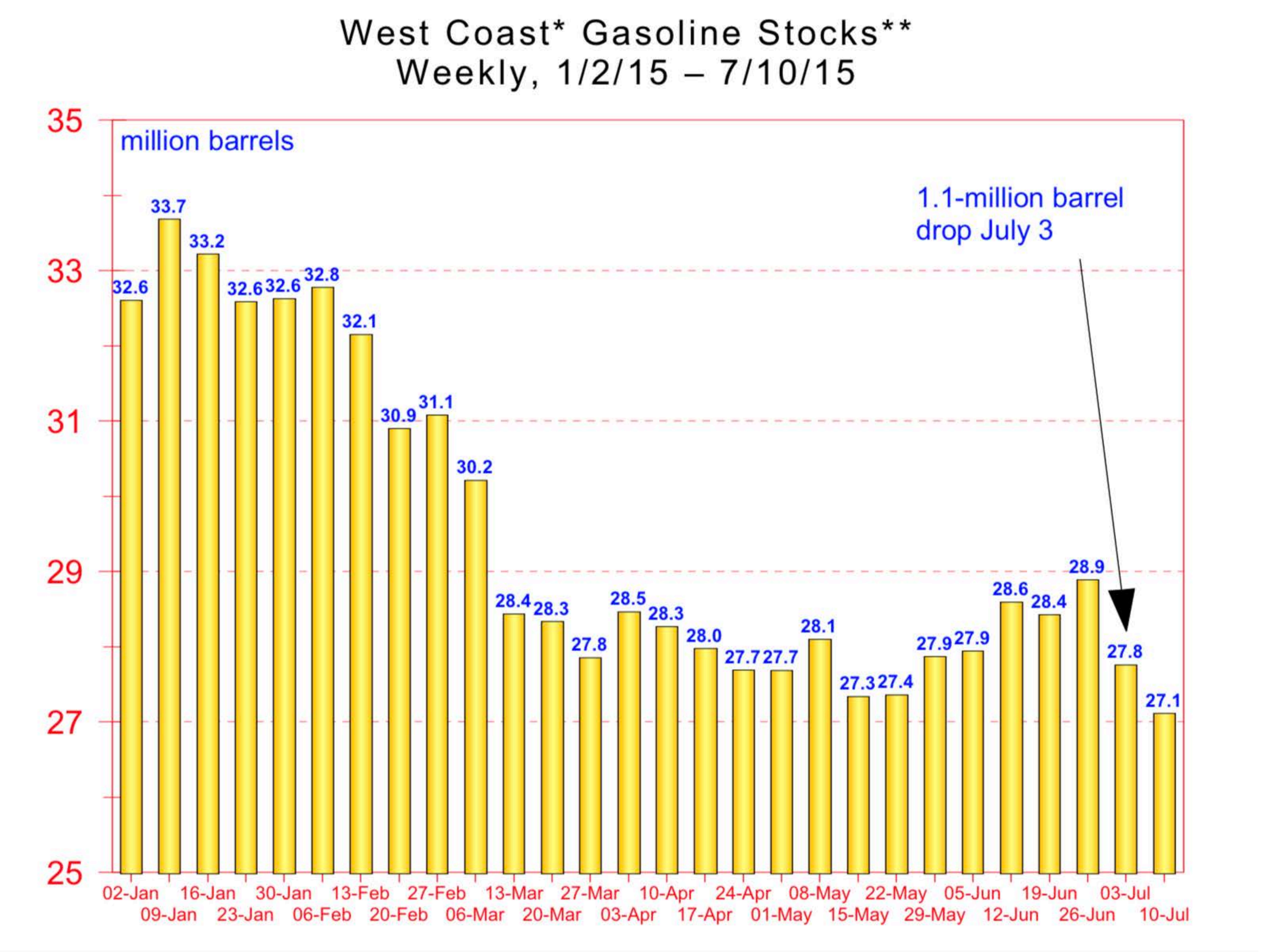
- The shock is exacerbated with the secondary stocks kept at retail stations and the tertiary stocks in motor vehicles adding another 40% not reflected in weekly CEC and EIA inventory reports. The following Lundberg Letter Chart shows the dip in gasoline inventory levels in the first six months of 2015.



West Coast* Gasoline Stocks**
Weekly, 1/2/15 – 7/10/15
million barrels
1.1-million barrel drop July 3
35
33
31
29
27
25
32.6
33.7
33.2
32.6
32.6
32.8
32.1
30.9
31.1
30.2
28.4
28.3
27.8
28.5
28.3
28.0
27.7
27.7
28.1
27.3
27.4
27.9
27.9
28.6
28.4
28.9
27.8
27.1
02-Jan
09-Jan
16-Jan
23-Jan
30-Jan
06-Feb
13-Feb
20-Feb
27-Feb
06-Mar
13-Mar
20-Mar
27-Mar
03-Apr
10-Apr
17-Apr
24-Apr
01-May
08-May
15-May
22-May
29-May
05-Jun
12-Jun
19-Jun
26-Jun
03-Jul
10-Jul

MAKING THE CALL

- Traders buy and sell gasoline on the Los Angeles and Bay Area spot markets, if traders need to buy to fulfill contractual obligations, they must pay whatever the market demands. Typical trade is 25,000 barrels of gasoline.

INTO THE TUBE

- Pipelines transport gasoline from refineries and ports to terminals. When traders purchase gasoline on the spot market, they arrange to have it delivered into the pipeline system. They pay a fee to move it through the pipeline.

FACTORS

- Comparison and reasons for the difference between branded Dealer Tank Wagon (DTW) and unbranded rack gasoline prices.
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- Because just a few dozen participants buy and sell in the spot market, prices can fluctuate faster than in the overall gasoline market. There are fewer traders in the California spot market as of January 1, 2015 after the implementation of AB 32 Green House Gas (GHG) regulations.
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- The latter along with the 2-18-15 ExxonMobil Torrance refinery explosion are the reasons for the California gasoline spot market becoming illiquid with fewer players at times allowing cornering of supply by major and super major oil companies and gaming the system to their advantage.

- After a sustained or sudden run-up in spot prices refiners will raise their branded DTW and unbranded rack retail prices.

Factors

- A trader purchasing 25,000 barrels on the spot market might ship 10.000 barrels of it to a particular terminal, or rack.
- They are typically broken up in segments from 2,500 to 10,000 barrels and are offered for sale at the rack to jobbers, fleet owners who supply independent stations. These rack prices typically reflect changes in spot prices.
- If spot prices in Los Angeles fall too far down, cargo ships may be diverted to other ports where prices are higher.

FINAL CONCLUSIONS

- Implementation California AB 32 GHG regulations on 1-1-15 set off a perfect storm of factors leading to the current disarray in the spot market, wholesale and retail gasoline prices in California.

- The second factor was the United Steel Workers Union strikes, which started on 2-1-15 at selective California major oil company refineries. They were settled in March but by then supply interruptions in refinery operations mainly at Tesoro facilities had a major affect on interrupting delivering gasoline supplies.

- The annual switchover from winter blend to summer blend gasoline blend, lowering Reid Vapor Pressure in California on 2-15-15 tightened gasoline supplies by about 10% and caused another inventory crunch.

- The coup de grace came on 2-18-15 when the Electrostatic Precipitator (ESP) exploded at the ExxonMobil Torrance refinery taking about 8% of the supply or 90 thousand barrels of gasoline per day out of the California market. It is now estimated not to be back in full operation until the second quarter of 2016.