Transportation Market Trends

Opportunities for Additional GHG Reductions From Petroleum Transportation Fuels Workshop
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Outline

• Crude oil production trends & CA sources
• Transportation fuel trends
• Improving efficiency & rising use of EVs
Crude Oil Trends & Sources
Outside of California, U.S. oil production has increased 135.6 percent between the low point of 2007 (unrelated to hurricanes) and April 2018 primarily through greatly expanded development of domestic shale oil deposits, steadily improving drilling efficiency & a dramatic increase of hydraulic fracturing. California output has declined 27.8 percent. Although California contains some shale oil deposits (according to EIA & USGS), a similar rebound of oil production in the state has not occurred due to more complex geological formations that greatly increase development costs & a significant downward revision in the volume of technically recoverable oil.
U.S. crude oil production has changed from 5.391 million barrels per day in January 2010 to a record 10.474 million barrels per day during March 2018.

Crude oil production gains are from shale oil (tight oil) formations. California & Alaska fields are conventional formations that have been producing for many decades (older fields).
California Refinery Oil Sources (1982–2017)

1.71 million barrels per day in 2017 – foreign receipts expected to grow as California’s output continues to decline.

Sources: DOGGR, Energy Information Administration, Class 1 Railroads and the California Energy Commission.

California Refinery Oil Sources (1982–2017)

- **Foreign**: 354.1 Million Barrels (56.7%)
- **Alaska**: 77.1 Million Barrels (12.3%)
- **California & Other Domestic Lower 48 Sources**: 193.8 Million Barrels (31.0%)

Sources: DOGGR, Energy Information Administration, Class 1 Railroads and the California Energy Commission.
Nearly 69 percent of oil processed in CA refineries during 2017 was delivered via marine vessels.

Waterborne receipts of oil rising & diversity of foreign sources increasing.

Sources: Energy Information Administration and the California Energy Commission.
Contrary to the national trend, California refiners have collectively not been increasing their use of Canadian crude oils. The trend appears to be declining since 2010. Even if greater use of Canadian oil occurs over time, refiners are expected to offset with other types of oil to maintain consistent average blended properties.

Source: Energy Information Administration - California Energy Commission
Transportation Fuel Trends
California Total Gasoline Consumption Rebounds with Improved Economy

Source: California Energy Commission analysis of State Board of Equalization data.

California Unemployment Rate


California Unemployment Rate

Highest level since 2007.

Source: California Energy Commission analysis of State Board of Equalization data.
Renewable content was an average concentration of 10.1 percent by volume for each gallon of finished gasoline consumed in the state during 2017. Blend wall of 10 percent can be exceeded through additional E85 sales.

Sources: California Energy Commission analysis of data from the State Board of Equalization, Energy Information Administration & California Air Resources Board.
California Diesel Fuel Consumption
Increasing Renewable Content

California policies such as the Low Carbon Fuels Standard are compelling greater use of renewable fuel, attaining an average concentration of 13.4 percent by volume for each gallon of diesel fuel consumed in the state during 2017.

Sources: California Energy Commission analysis of data from the State Board of Equalization, Energy Information Administration & California Air Resources Board.

California Energy Commission
Improving Efficiency & Rising Use of EVs
California continues to reduce gasoline use per driver, assisted by growing sales of alternative vehicles.

Sources: California Energy Commission analysis of State Board of Equalization and Federal Highway Administration data.
CA vs. US - Gasoline Consumption
Annual Use Per Licensed Driver

- California
- U.S. Less California

Opposite trend outside California as consumers preferentially purchase less fuel-efficient light trucks.

Light Trucks as Percentage of New Vehicle Sales

Sources: California Energy Commission analysis of State Board of Equalization and Federal Highway Administration data.
Thank You

For technical questions, please contact

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