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Fuel-Economy Reduction From Cleaner-Burning Gas
Within Expected Range, According To Statistics

California's 24 million motor vehicles have not experienced fuel-economy reductions from the use of cleaner-burning gasoline beyond the small 1 to 3 percent decrease anticipated by the California Air Resources Board, according to the latest state statistics on gasoline consumption and vehicular use.

Gasoline consumption in California in the four-month period from April to July 1996 was 2.2 percent higher than the same four-month period in 1995, according to records compiled by the State Board of Equalization. Average daily-traffic levels on state highways in April-July 1996 were 1.9 percent greater than the same period in 1995, according to Caltrans surveys.

"California's 24 million motor vehicles conducted a four-month scientific fuel-economy test," Air Resources Board Chairman John Dunlap said. "Early Air Resources Board tests predicted there would be a very small decrease in fuel economy, and today's results prove that is exactly what happened."

Cleaner-burning gasoline, which reduces smog-forming emissions from motor vehicles by 15 percent, has been used statewide since mid- to late March in accordance with ARB regulations. ARB has said that fuel economy with cleaner-burning gasoline averages 1 to 3 percent less than previous higher-polluting gasolines.

Gasoline-tax receipts collected by the State Board of Equalization show that California motorists consumed an average of 37.7 million gallons of gasoline per day in April-July 1996. That total is 2.2 percent greater than the average of 36.9 million gallons per day consumed in April-July 1995 (before cleaner-burning gasoline was in use), and 2.0 percent greater than the 37.0 million gallons per day consumed on average in April to July in 1990 to 1995.

Caltrans traffic surveys indicate that the total number of miles driven on California's highways increased by an average of 1 percent per year between 1990 and 1995. The Caltrans data, taken from 17 measuring sites, also indicates that average daily traffic on state highways was 1.9 percent greater in April-July 1996 than the same four months in 1995. Caltrans uses the survey data to estimate (within 1 percent) the total vehicle-miles traveled on all state highways.

The tiny statewide decrease in fuel economy in 1996 reflects several factors in addition to the switch to cleaner-burning gasoline. These other factors include higher speed limits, weather, vehicle turnover and the relatively small uncertainties in tabulating gasoline and vehicular use.

Because these and other factors cause small variations in

statewide fuel economy from year to year, the tiny actual decrease in fuel economy in April-July 1996 is consistent with the expected 1 to 3 percent reduction specifically from the switch to cleaner-burning gasoline.

"If the fuel-economy loss from cleaner-burning gasoline had been significantly more than 3 percent, we would have seen a steep, unmistakable increase in gasoline consumption. As we expected, the switch to cleaner fuel didn't even stand out among the factors that influence fuel economy throughout the state from year to year," Dunlap said.

"The concern that poor fuel economy would negate the gasoline's clean-air benefits also was groundless," Dunlap said. "Airborne levels of cancer-causing benzene in California dropped by half or more this spring due to the use of cleaner gasoline. And, the decrease in ground-level ozone throughout the state this summer was consistent with what we expected from cleaner gas."

Cleaner-burning gasoline has approximately 1 to 3 percent less "energy content" than previous gasolines, and therefore leads to a comparable reduction in fuel economy. The relationship between fuel economy and a gasoline's energy content is well established, and measuring a fuel's energy content is a straightforward procedure. Separate tests by ARB and industry researchers also verified the 1 to 3 percent fuel-economy reduction from cleaner-burning gasoline.

Measuring fuel economy from an individual vehicle and establishing the cause of a change in fuel economy is surprisingly complicated. Vehicle owners who wish to analyze their fuel economy should consider a number of factors that can influence fuel economy to a far greater extent than gasoline.

These factors (and the resulting decrease in fuel economy) include: driving at 70 mph instead of 55 mph (as much as 25 percent); "hard" acceleration (12 percent or more); use of air conditioning or the defroster (as much as 21 percent); and underinflated tires (3 to 6 percent).

For more information on cleaner-burning gasoline, please access the ARB website at <http://www.arb.ca.gov/>.

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