

Consumer Reports: Gas temperature makes little dent in price at the pump

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According to activist groups, gasoline retailers pocket millions of dollars a year by selling drivers so-called "hot gas" -- fuel that has expanded due to warm weather, but will later shrink in vehicle fuel tanks. Filling up in early morning when gas is cooler will save pennies at the pump, it is claimed.

But tests show that drivers have little to gain from an early visit to their gas station, says Consumer Reports, an arm of the non-profit Consumers Union, which tests products and evaluates services sold to the public.

The basic facts are correct, but the claim that consumers will gain from fueling when its cooler is not. Gasoline does expand and contract a little, depending on its temperature. When gasoline rises from 60 to 75 degrees F, for instance, it increases in volume by 1%, but the energy content remains the same, says the group.

But stations store gasoline in underground tanks, where the temperature variation is much less than in the ambient air at the pump. The temperature of the gasoline coming out of the nozzle varies very little, if at all, during any 24-hour period at any particular station.

Craig Eerkes, former chairman of the Petroleum Marketers Assn., told Consumer Reports that the expansion and contraction of gasoline due to day-long temperature shifts is, for the consumer, "so minuscule as to be almost nonexistent."

Judy Dugan, research chief for California activist group Consumer Watchdog, which wants mandatory temperature correction at the pumps, acknowledges that temperature changes from day to night at an individual station "apt to be negligible." However, double-walled tanks keep gasoline at the same temperature at which it is delivered for some time. "If fuel is warm when it's delivered to a station, it'll still be warm when it's sold a few hours later," Dugan told Consumer Reports."

To check out the claims by both sides, Consumers Reports ran temperature tests on gasoline stored in an underground tank at its auto-test facility in East Haddam, Conn. It measured the temperature of fuel leaving its dispenser nozzle at 8:30 a.m. and 12:30 to 1:00 p.m. over the space of several summer days.

Results: While the air temperature between filling varied by up to 12 degrees, the fuel in the underground tank stayed at a steady 62 degrees F. After the first few gallons were pumped, the temperature of the fuel coming out of the nozzle varied very little between morning and afternoon.

In both morning and afternoon fill-ups, the first few gallons were notably warmer than following gallons. The temperature of the fuel between the first and tenth gallons dropped 8 to 17 degrees. However, Consumer Reports says it gasoline can sit for hours or even days between fill-ups -- unlike a typical station tank, which may be replenished every day or more often. "After pumping a car-tankful of gas, 20 gallons or so, the temperature had declined to that of the underground tank," said the group.

"Even with the temperature swings we saw in the first few gallons pumped at our facility, we didn't see a big penalty for the consumer," Consumer Reports concludes. "A 15-degree difference, for example, would result in a one-percent gain in volume. Or, just a few cents

difference on the first gallons pumped -- not enough to change your schedule or routine in chasing costs, especially if it might increase your fuel consumption in the pursuit.”

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