

Summer Gasoline vs. Winter Gasoline – What's the story?

The following email was received on November 20, 2004 in response to my November 17, 2004 article about Thanksgiving Day holiday gas prices:

Hi, we enjoyed reading your article published in the Pasadena Star News Wednesday about a happy Thanksgiving for oil company stockholders. But we have one question: you referenced something in passing that we have never heard of and cannot find anyone who has: refineries going offline to switch from "summer to winter gasoline."

There are seasonal forms of gasoline? What is the difference in the gas and the price, and why do we not hear about this more often or see a change in prices at the gas pump or performance in our cars?

Thank you.

The Gas Guy's responses to the questions asked in the above email are as follows:

WHY SWITCHOVER GASOLINE FROM SUMMER TO WINTER?

WHAT IS THE DIFFERENCE IN QUALITY AND PRICE OF GASOLINE?

The petroleum industry has been going through cycles of switching in producing summer to winter gas for about thirty years. This occurs in the fall and in the spring having refineries take some of their units down or shutting down completely. The industry term for this is that they going into a "turn around". This all started after the Federal EPA and in our case, the California Air Resources Board (CARB), starting setting standards for Reid Vapor Pressure (RVP) in gasoline during the high ambient outside temperature season.

The lower the RVP the better your engine will run during the summer heat and especially when climbing those long grades in your car or truck. Some engines would "knock" during the summer before the standards were implemented and major oil companies initially voluntarily produced the antiknock compound in their gasoline as a way of promoting their brand. Of course, it costs more to produce the lower RVP gasoline. Other factors have changed to prevent knock in engines as well, such as timing enhancements on engines, thermostats, coolants and radiator fans.

Of course, refineries make less gasoline per barrel during the summer since the extra refining process causes evaporation of some of the light ends in the gasoline. Conversely, we produce about 10% more gasoline in the winter. When all refineries are up and running at full capacity, as they are currently, it

causes supply to once again meet our demand of about 45 million gallons of gasoline per day or 1.2 billion gallons per month in California. Gasoline prices tend to ebb down during periods when supply and demand is at equilibrium.

We are short in the summer and depend on imports from other refineries in the country and the world to ship CARB quality gas. They are very reluctant to do so since it represents a boutique gasoline that is expensive to produce and when transshipped to other destinations other than California becomes a "loser" on their slate.

The main problem in the petroleum industry today is not the supply of crude, or for that matter, its price but rather "refining capacity". So, refiners asked themselves the question "Why make gasoline that may or may not make you more profit if you can stick to having a formula that can sell in more places than our Golden State?"

As of today all gasoline produced in California by major oil companies in our market sell their gasoline at the branded station level with refineries owned by those same oil companies. That leaves the customer with only two decisions to make when they shop for gas. The first one is the price and after that, the octane rating posted on the pump. Names of brands and additives are not as important as they used to be in the past.

Who can forget those times we drove up the Grapevine to go to Bakersfield in a car with its engine knocking? It got so bad, sometimes, you had to turn off the air conditioning and roll down the windows with the temperature at 110 degrees.

In summary, we have to switch quality of gasoline from hot to cold weather seasons. The summer formula takes more refining, produces about 10% less gasoline out of the same barrel of oil than it does during the winter and is therefore overall more expensive during the summer.

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