

Our View: Increased EV Use Cuts California Gasoline Consumption by 175 mbd

Philip K. Verleger, Jr.

January 23, 2023

The US Federal Highway Administration has reported that the miles driven by Californians increased ten percent during the first ten months of 2022 compared to 2021. During the same period, California tax authorities report, gasoline sales declined by one percent. In prior years, the miles driven and gasoline consumed moved together. Californians would have burned 175,000 barrels per day more gasoline in 2022 had that trend continued. For comparison, we note that the historical relationship between gasoline consumption and miles driven has held in other states such as Texas where gasoline prices are lower and incentives to adopt alternative vehicle technologies are fewer.

We attribute the drop in California gasoline consumption to the higher sales and greater use of electric vehicles driven by high fuel costs and the State of California's incentives for switching to EVs. As the chart on our homepage shows, that shift has contributed to the observed fuel economy in California rising from an average of 22.9 miles per gallon to 27.2. (We measure average fuel economy by dividing the miles driven by the total gallons consumed.) A similar increase was seen five years ago in Norway following the surge in EV sales and registrations in that country.

The trend in California indicates that gasoline use across the United States will be threatened as more EVs are sold. The market developments in California are following the pattern established in Norway. That country's adoption of EVs and decline in gasoline use, in turn, follow the pattern of new technologies displacing old ones observed in many other businesses. For example, the transition from traditional landline telephone systems to cellular phones took a similar path.

The data reveal that these shifts are influenced by the relative price of the new technology to that of the technology being replaced. The transition speed increases as the price of the new technology decreases. In the United States, this means that actions like Tesla's price reductions and the new electric vehicle tax incentives provided in the Inflation Reduction Act will accelerate the country's shunning of gasoline and diesel.

Our full analysis of the EV transition appears in the January 23 *Notes at the Margin*.