RedState

California's Looming 'Green New Car Wreck'

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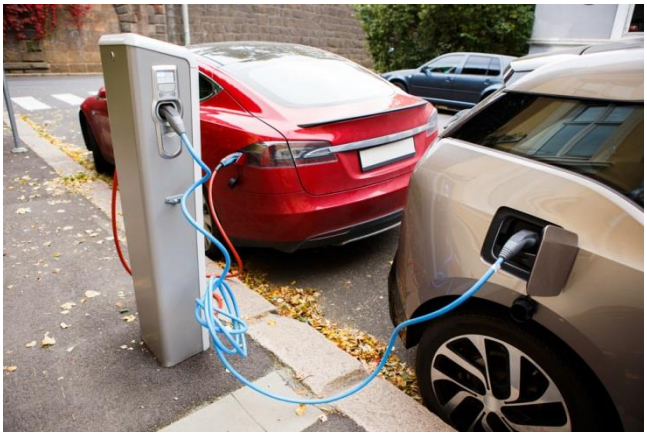

On September 23, California Gov. Gavin Newsom issued an executive order that will ban the sale of gasoline-powered cars in the Golden State by 2035. Ignoring the hard lessons of this past summer, when California's solar- and wind-reliant electric grid underwent rolling blackouts, Newsom now adds a huge new burden to the grid in the form electric vehicle charging. If California officials follow through and enforce Newsom's order, the result will be a green new car version of a train wreck.

Let's run some numbers. According to **Statista**, there are more than 15 million vehicles registered in California. Per the **U.S. Department of Energy**, there are only 256,000 electric vehicles registered in the state—just 1.7 percent of all vehicles.

Using the **Tesla Model3** mid-range model as a baseline for an electric car, you'll need to use **about 62 kilowatt-hours (KWh) of power** to charge a standard range Model 3 battery to full capacity. It will take about eight hours to fully charge it at home using the standard Tesla NEMA 14-50 charger.

Now, let's assume that by 2040, five years after the mandate takes effect, also assuming no major increase in the number of total vehicles, California manages to increase the number of electric vehicles to 25 percent of the total vehicles in the state. If each vehicle needs an average of 62 kilowatt-hours for a full charge, then the total charging power required daily would be 3,750,000 x 62 KWh, which equals 232,500,000 KWh, or 232.500 gigawatt-hours (GWh) daily.

Utility-scale California solar electric generation according to the **energy.ca.gov** puts utility-scale solar generation at about 30,000 GWh

per year currently. Divide that by 365 days and we get 80 GWh/day, **predicted to double**, to 160 GWh /day. Even if we add homeowner rooftop solar, about half the utility-scale, at 40 GWh/day we come up to 200 GW/h per day, still 32 GWh short of the charging demand for a 25% electric car fleet in California.

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