

# Road Beat: The case against electric vehicles

By Larry Weitzman

It appears that the demise of the gasoline and diesel-powered car is near, perhaps in less than 20 years. Will that demise be caused by a lack of fuel, competition and market forces or will it result from some other reason besides market forces? That poses a very important question.

History tells us the best products are developed by market forces and innovation, not by government decree or intervention. When market forces ruled, electric cars were 38 percent of the car market in 1900, but by 1905 EVs' share of the marketplace dropped to 7 percent and by 1912 after the invention of the electric starter by Charles Kettering (first offered on the Cadillac), electric cars were sold next to the buggy whips. Cars powered by the internal combustion (I/C) engine had taken over the market place, not by government decree but because they were simply a better motive force and the fuel system offered significantly greater flexibility and utility. And the marketplace decided that, not some government bozo(s).



Larry Weitzman

If EVs were so great and were a better source of personal transportation, then without question, EVs would rule the market place. But they don't. Even with EVs like the Tesla,

Volt, Leaf and more, EVs sales are less than one percent of the marketplace and that's with significant government incentives and subsidies. First, is that EVs are very expensive. The main component, the battery, is extremely expensive still allegedly costing about \$270 a kilowatt hour (kWh) of energy storage. The rule of thumb for EV range is from 3-4 miles per kWh, meaning for an EV with a 200-mile range (about a 60-kWh battery), the cost for the battery alone will be \$16,200. And that is just for the part, with no installation and markup.

In today's market, there are several compact cars that achieve 40 mpg that sell for a transaction price below that number and there many subcompact cars that can be had for 10-20 percent less than that number. And the car types that are mentioned also have a fuel operating expense less than an EV. In other words, in many parts of California, for the same \$5 of energy, the compact (I/C) car will be able to travel farther than the EV.

If you don't think government subsidies have anything to do currently with the meager sales of EVs we have an actual example, Hong Kong. Tesla was doing a brisk sales business in Hong Kong with its EV. Recently Hong Kong stopped all subsidies and Tesla sales have all but dried up. What do you think would happen here if all subsidies were terminated?

The powertrain for the compact car costs about \$3,500, for an EV with a 60-kWh battery it's about \$20,000. And the average compact car has a range of 400 miles and a highway range of 500 or more miles, not the miniscule 200-mile range of a 60 kWh EV. The refueling time for the compact car will be about two minutes and for the EV on a 220 Volt charger it will take a minimum of four hours (eight hours or more on a 110 Volt outlet). Even a supercharger (called CHAdeMO) it will take nearly an hour and potentially shorten battery life. And then there is an issue no one talks about, cold weather. Batteries do not perform well in cold and hot weather and in winter time

EVs will not have the promised range. When temps approach 32 degrees, it will significantly degrade EV range, depending on how cold; published reports show a 57 percent range loss at minus 20f. East Coasters beware. At temperatures above 95 degrees, range can drop by about 35 percent. Batteries work best in moderate climates.

Even in today's market of saving the world mantras (a fallacy), EVs have only one percent of the market, even with huge government subsidies. Chevy's remarkable Volt EV with a solid 200-mile range and a fictitious base price of about \$35,000 (less than \$30,000 with tax credits, with high income earners getting the most benefit here) is not selling all that well, with Chevy intentionally slowing production because of slow sales. A benefit for GM as they lose money on every Volt, anyway. And then there is Tesla, which without government subsidies has lost significant money in every quarter since its inception. Even with government subsidies of about \$1 billion, Tesla has lost significant money in 18 of the last 20 quarters, (now totaling \$2.4 billion).

So how are electric cars going to take over the market and push conventional I/C cars out of existence? By government decree and mandates, that's how. Not by consumer demand, not by making a better mousetrap, not by fuel becoming expensive (oil reserves are growing, not shrinking), not by price, but by government fiat (not by the Fiat 500 EV). That's how it will happen.

China, which is about 30 percent of global auto sales recently announced in one fashion or another that the government will end conventional I/C car sales within about 20 years. The governments of the Netherlands and Norway said it would end I/C car sales by 2025, India said it would end I/C car sales by 2030.

The governments of France and Britain said I/C sales would end by 2040 and Germany has hinted it will follow suit.

Hybrids might be allowed under these new fiats and mandates which will mean 90 percent of the motive power will come from an I/C, so then the mandate is just hot air, but the bottom line is that EVs cannot compete in any fashion with conventional I/C vehicles. The only way they can is by a government mandate which bans I/C engines. The marketplace does not want EVs but governments do and it has nothing to do with the environment and everything to do with controlling and limiting the freedom of its governed. The global warming argument is a red herring as most electrical power will still be made by CO2 emitting plants, anyway. And of course, the empirical data continues to point that human induced global warming (AGW), climate change or whatever the nom de jour may be is nothing more than a political movement and has nothing to do with the environment. The data is clear that AGW is an insignificant issue.

EVs might become practical, affordable transportation, possibly when the element known as "Unobtainium" is discovered, but it will never happen by government fiat and its discovery appears highly unlikely.

*Larry Weitzman has been into cars since he was 5 years old. At 8 he could recite from memory the hp of every car made in the U.S. He has put in thousands of laps on racetracks all over the Western United States.*