

American Thinker

September 25, 2022

The hidden truths about your electric car

By [Kent Moss](#)

What are the implications of purchasing an electric vehicle (E.V.)? Let's find out.

A new full-size E.V. capable of traveling about 300 miles with a single charge currently sells for about \$60,000. Typical E.V. battery replacement after 3–5 years of normal use sells for \$10,000–\$15,000. This type lithium battery replacement is handled only by an authorized dealership. On the other hand, a new full-size gas vehicle (G.V.) sells for approximately \$40,000. Typical battery replacement for the same normal use sells for \$100–\$150 and can be replaced and installed by the individual owner.

Let's consider the cost of ownership of driving a vehicle 100,000 miles. For the E.V., an 8-hour charge, which is good for a range of about 300 miles, is now about \$8 per charge, or about \$2,700. The E.V. cost includes a \$60,000 initial cost plus the \$2,700 charging cost and a \$10,000 battery, totaling \$72,700. For the G.V., the cost includes \$40,000 initial cost plus \$300 battery (2) replacements and 4,000 gallons of gasoline, averaging 25 miles per gallon at current gas price of \$3.50 per gallon, or \$14,000, and \$2,000 maintenance, which totals \$56,300. It follows that the price for gasoline would have to be about \$7.60 per gallon for ownership cost of the E.V. to be equivalent to that of a traditional G.V. These numbers are part of the hidden truths.

A typical E.V. battery weighs one thousand pounds and is about the size of a car trunk. It contains 25 pounds of lithium; 60 pounds of nickel; 44 pounds of manganese; 30 pounds of cobalt; 200 pounds of copper; and 400 pounds of aluminum, steel, and plastic. This type of battery contains over 6,000 individual lithium-ion cells. The majority of these materials are derived from mining operations worldwide. To manufacture each E.V. auto battery, the following material must be processed: 25,000 pounds of brine for the lithium, 30,000 pounds of ore for the cobalt, 5,000 pounds of ore for the nickel, and 25,000 pounds of ore for copper. All told, suppliers must dig up 500,000 pounds of the earth's crust for just one battery. Sixty-eight percent of the world's cobalt, a significant part of an E.V. battery, comes from the Congo, where they have no pollution controls and minimal regulation, and they employ children, who die from handling this toxic material.

There are no emissions directly from an E.V. itself. However, there are many from mining operations. These facts are not generally publicized.

E.V.s can and should be part of the solution, but doing away with fossil fuels is not a viable alternative. According to Texas comptroller Glenn Hager, a complete divestment of the industry not only is impractical and illogical, but runs counter to the economic well-being of our country and its citizens. The U.S. economy depends on the use of fossil fuels such as natural gas and coal for power generation, and gasoline and diesel for transportation and airline industries. More research, study, and trials must be done to change our current energy sources in a responsible way.

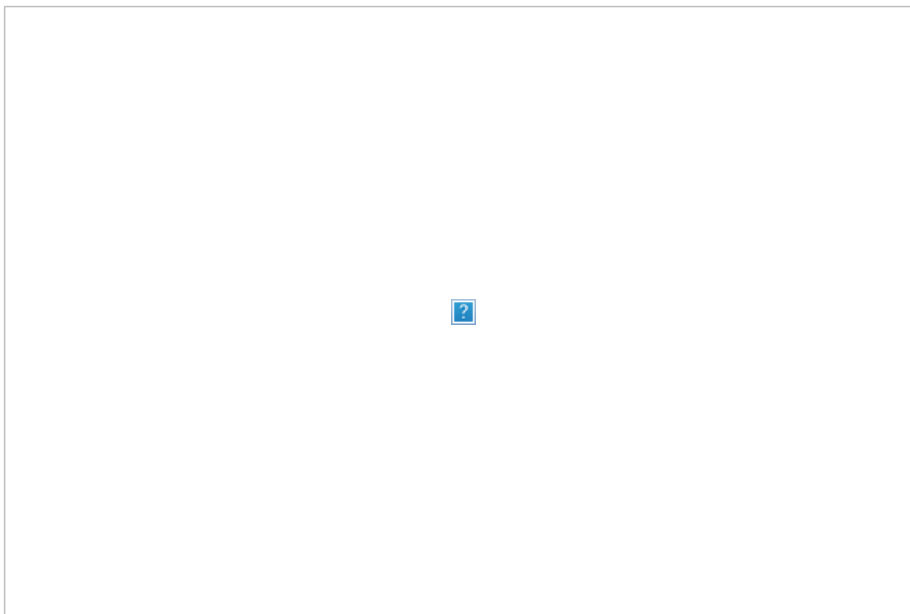


Image via [Pixabay](#).



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Michael TARRIER 9 months ago

California is attempting to change all of the USA to their way of thinking by forcing everyone to adopt their way of life. Agriculture is already in the crosshairs. California passed laws defining how agriculture will be done & insists farm products from other states comply with their laws or they can't sell the products there. Time for California to learn to do without....food, cars, fuel, etc

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16 0

Bill Garman 9 months ago

The Dems controlled Virginia politics last year and "Never Met A Baby He Wouldn't Kill" Northam signed a law that

forced us to follow whatever California does regarding electric vehicles. The cowardly bastards don't even have the conviction to stand up for what they purport to believe in and specifically vote on it.

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Alan Stevens 9 months ago

Youngkin is working to get the General Assembly to repeal that this spring.

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Ben Brenneman 9 months ago

"There are no emissions directly from an E.V. itself."

Yes there are, back at the fossil plants generating the electricity to charge them...

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Edward F Haertel 9 months ago

There are lots of emissions from the production and charging of an EV, but none of those are directly from the vehicle itself. Those pushing EVs as a way to save the planet by eliminating CO2 or any other emissions are charlatans who are trying to sell a dumb public a bill of goods. As you state, the emissions are at the power plants supplying the electrical grid. For the foreseeable future there is no way that solar and wind are going to supply sufficient power for electricity use without charging EVs, much less EV charging added to normal electric use.

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Bill Garman 9 months ago

It's *your* fault all the unicorns are in hiding!!!

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Alan Halbert 9 months ago

Kent,

Two things you failed to mention, Congress has never budgeted any moneys to fund the expansion to the grid that would be needed, much less the nightmare of how do you charge a vehicle in a city...

That alone makes zero sense to bring these vehicle statuary and land anchors to market, since you cannot carry a bucket of electrons to pour into an empty tank, when its batteries are discharged, that takes hours...!

Then there is NO disposal method for these batteries since they are toxic waste, and a horrible waste of metals; which has been traded for ever-increasing mileage and reduced emissions from petroleum, a natural earth made product with significant emissions being reduced year over year...

Not to mention gasoline stations, which are capable of handling thousands of vehicles a day, and already in place pull in, fuel up and out on the road again, in 10 minutes, 15 to 20 if you have to potty or feed the dog, yourself or loved ones.

Versus hours to charge a vehicle, after only traveling 300 miles, versus 500 hundred or more in a gas powered vehicle and 8 hours of driving at 70 miles an hour. If you have two drivers you can drive 24 hours a day, and have a 1600 mile or more range, that cannot be done with electric vehicles now or in the foreseeable future, unless fuel cell technology is utilized.

If you follow the wisdom of the legislation over these vehicles shows what they really intend which is to take away our freedom, since all it takes is a flick of a switch and the American people have no freedom to travel, irresistible to a Democrat...!

This is war

Remember Afghanistan

In Libertas

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Sharon Sapp 9 months ago

EVs don't pay a gas tax that goes for roads and bridges, yet they drive on them and cause wear and tear.

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HoiPolloiBoy 9 months ago

This is where the GPS tracker comes on so the gubmint can bill the owners for miles traveled and know where the car has been.

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Terri Buck 9 months ago

Oh yes. They have a plan for that. The testing was done at the University of Iowa. We can't plan ahead for charging stations but we have programs ready to go for taxation.

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Edward F Haertel 9 months ago

No sense in planning ahead for charging stations when the vast majority of people won't buy an EV. But the taxation can be applied to current vehicles of all types.

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Alan Stevens 9 months ago

Electric motors are very efficient but when not stationary they need a battery and as the article points out for an automobile that it is a thousand pound device that is resource intensive.

Their figures match what I have seen elsewhere --

A Tesla battery has
25 pounds lithium (which has to be treated with sulphuric acid)
60 pounds nickel
45 pounds manganese
30 pounds cobalt
200 pounds copper
400 pounds aluminum and plastic
The machine that mines that, uses 900 to 1000 gallons fuel every 12 hours.
How is this feasible?

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Pigeon 9 months ago

Common core math, that's how.

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Diana Connan Forgy 9 months ago

Every time I see an EV I think of the environmental degradation and human costs of producing its elements, and it makes me sick. Reading this article and seeing it all tabulated in black and white makes me even sicker. It takes a really twisted mind to believe that these vehicles are "clean and green".

And the author forgot to mention where electricity comes from -- not from a plug in the wall, but from a power plant, more often than not coal-fired. Not a bit clean and green, any of it.

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Jeffry Rogers 9 months ago

The first question is there really a problem? Models are built by the quantification of the impact variables on whatever one is trying to model. In order to do this you must have some empirical knowledge of the interaction of the variables, lacking that you must use an educated guess. The climate models have some guesses. Now if I were making a financial model to just give some context but not to be anyone's holy grail this would be ok, I might model whatever using a number of guesses a what if analysis if you will. This gives me only a range of possibilities not an absolute and when doing this any tendency toward the absolute winds up leading to bad decisions. So with an estimate in the climate models means they cannot be relied on for jack except that today they are like Medieval art, the buyer gets what the buyer wants. Who are the buyers, your power seeking government folks paying off your intellectually corrupt universities.

The environmental movement is based on emotion loud mouths and ignorance by self a pool Ted well meaning people

The environmental movement is based on emotion, lead media and ignorance by our a poor red well meaning people. Climate change is based on their theory that man is evil. We killed the value of Christianity because it got in the way of our hedonistic behavior. So climate change is the new original sin. That sin being that we have taken God's creation and the gifts that it holds and created a comfortable life for many. For many that is is sign we are evil but they are blinded by their own self image of being great. Now most folks see this but for folks in the academy, the WEF and politics it holy grail leading them to absolute power. That is really what this idiocy is about.

We do need to be concerned about the environment but not using political science. This means we must return our academy to an honest and ope to challenge organizations. Dump eighty percent of the administrations, allow for point counter discussions, open to all challenge and remove any students or faculty who want to ban civil discussion. They want this because they absolutely know but cannot win a debate, note now politically who are dodging debates. We also need to get the politicians out of science. That includes the Fauci's a man who will not be remembered as a savior but rather as narcissistic egotist.

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4granny 9 months ago

I have hope for success for this group in California which will form a New California state which is comprised of the agricultural counties. This group is following the Constutution on how to form a new state when the government becomes tyrannical.

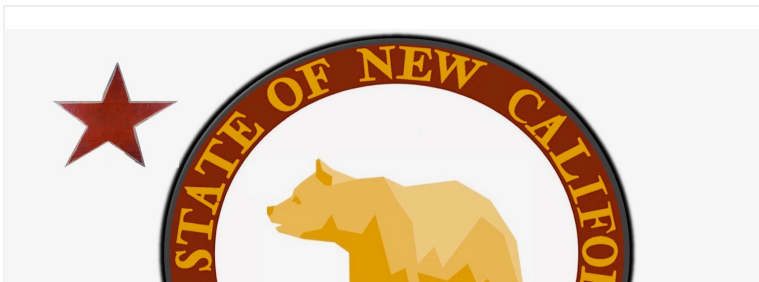
This would be a split of California which would leave the coastal towns in California, which the agricultural counties would become the New California.

So far they have committees and have proclaimed greivences in each county in California. They have served Gavin Newsome with notice. Please see articles.



Group Using West Virginia Model to Create "New California" Serves Gavin Newsom Notice of Constitutional Default

A massive group of concerned citizens and constitutionalists have had enough of the unconstitutional insanity taking place in the state of California. This group is using the West Virginia model to create a new state that will abide by the US Constitution sep... thegatewaypundit.com



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Alan Halbert 9 months ago

One problem is that they will need to have the buy in from Congress, as it is, particularly in the case of new States

springing up amongst the current ones...

There is no way California Democrats are going to water down their 55 Electoral College votes without a fight...!

In Libertas
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chiller 9 months ago

One of the nets news mags reported by Cynthia McFadden shows horrible devastation in the Amazon. Complete destruction, sure to spread.

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Diana Connan Forgy 9 months ago

And the Congo, and large areas of China. Just a great place to bring up the kids, assuming that they don't die early due to birth defects. Those who live they can work as cheerful little slaves as young as four years old, mining minerals for the greedy running-dog capitalists in the West.

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Joe Strader 9 months ago

EV's are heavier than conventional vehicles. This increases wear on tires and suspensions.



Tech: Why Don't Tires Last as Long on an EV? Clean Fleet Report

EVs may run through tires faster, but they require less maintenance overall.

[cleanfleetreport.com](https://www.cleanfleetreport.com)

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Barbara Griffiths 9 months ago

But the cost of a new battery on top of the EV's purchase price is a non-starter for many people.

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drropol 9 months ago

EVs also have to be torn down to replace the battery because EV batteries are spread out to prevent the battery from overheating. They aren't a big cube under the hood. Replacement batteries aren't kept around in a warehouse like parts for standard vehicles are so a replacement battery may not be available at all. Link below to a Florida family's EV nightmare.



Florida family drives into electric car problem: a replacement battery costs more than vehicle itself

A Florida family ran into a major problem after buying an electric vehicle, the replacement battery costs more than they bought the car for.

[foxbusiness.com](https://www.foxbusiness.com)

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Terry Paulding 9 months ago

*Remember, also that these heavy vehicles cause more micro particle pollution from the tires to pollute the land adjacent to the roads they drive, and that stuff is worse than tailpipe emissions
https://www.americanthinker.com/blog/2022/05/with_electric_cars_the_nexus_between_leftist_ideals_and_reality_is_shrinking.html

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John Watson 9 months ago

And roads and highways, which requires petroleum products to repair with large fuel guzzling machines.

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Roy Weintraub 9 months ago

From comments I've read on other websites from happy EV owners, there are the following advantages:
 They're great for short commutes, provided you have the capability to charge at home.
 The EV may go 200K miles w/o battery replacement.
 It takes 15 to 30 minutes to achieve an 80 % charge.
 A 120/125v charger can be used, but will take longer.
 There are free charging stations available, 15 minutes, while shopping at the provider's store.
 They can be used for long trips, and w/ GPS, charging stations can be easily found.
 GM was providing a cash incentive for charging station installation with the purchase of an EV (truck, I believe).

Of course, there other issues that must be considered.
 Home charging unit installation on an existing home can range from less than \$1000 up to \$50,000, depending on location, available service, work requirement, etc. But is unavailable, if one lives in an apartment.
 The US Govt & the state of California have battery life warranty requirements.
<https://joinyaa.com/guides/ev-battery-warranties/>
 The link provides that information, and also uses battery capacity retention, a limiting factor regarding battery power availability

availability.

Free charging stations are analogous to free air for tires (and free water for radiators & batteries). The demand for charging will create a cost.

You can get 300 miles on a 100% charge, which means that on long trips, one can expect to make several stops. I have seen charging stations readily available, but that will change as there are more EV's.

Taking the battery retention capacity degradation into account, means that over time, long trips will require more stops.

A PC Mag article provides information regarding battery life and warranty:

<https://www.pcmag.com/news/ev-batteries-101-degradation-lifespan-warranties-and-more>

The article is primarily focused on Tesla, but does mention others. It also gives some exceptions. Therein, lies the rub, while a new EV appears to be a rosy and expensive proposition (\$12,000 to over \$20,000 over a comparable gas car), your warranty is strictly from the manufacturer and battery replacement is limited to availability. If the model EV is purchased as "used", that may pose additional exceptions.

Joe Bidette has promised to build charging stations across the country, but there is no standard charging plug. That means one would have to buy an adapter.

Finally, once you plug into a public charging station, critical personal information then goes to the provider and where else?

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Terri Buck 9 months ago

I've seen several anecdotal reports on YouTube about the difficulty locating charging stations in middle America (meaning non-coastal areas). They all use the apps to locate stations. The charge rate at some are tortuously slow. Many are not operational for extended periods of time. The videos for the Ford Lightning are interesting too. 100 mile range towing a camper. Sounds miserable.

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Edward F Haertel 9 months ago

Don't go more than 100 miles with the camper. Have a charger that can hook up to the 50 amp RV outlet. But while you are charging your EV, is your camper without A/C, microwave or lights?
/s

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Roy Weintraub 9 months ago

According to Google, some destination routes have several charging stations, for example US 69 from the Red River to Dallas, TX. They are scarce in other areas of TX.

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Edward F Haertel 9 months ago

Don't know where you live, but I've never seen a charging station and suspect I'm not likely to in the foreseeable future as I'm rural and EVs aren't particularly useful for rural areas. I guess, since you say charging stations are available at the provider, that means that car dealers carrying evs will have at least a couple or three charging stations.

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Roy Weintraub 9 months ago

I have seen charging stations (2) at the Whole Foods store in Fayetteville, AR. According to Google, there are others in Springdale, Rogers, & Bentonville, but I have not seen them. There are 4 Tesla charging stations at a truck stop in Ozark, AR and 6 (from who, I don't know), at the Walmart in Clarksville. Both of these locations are right off I-40. BTW, 38% of the population of Madison Co., AR commutes to work out of the county. I used to commute 115 miles/day on a staggered schedule. So, in our area of NWAR, an EV w/o a home charging station is impractical.

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Edward F Haertel 9 months ago

Forgot to add the closest Whole Foods store I'm aware of is about 60 miles away from the house. Another place we don't go shopping.

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Roy Weintraub 9 months ago

Whole Foods store is very nice, but is also very expensive.

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Edward F Haertel 9 months ago

Been decades since I worked in that area. Used to hate the trip from Ft. Smith to Rogers/Springdale in the Spring (and vice versa in the Fall) on that two lane road. RVs struggling up the hills and few passing areas just drove me nuts. Great area the rest of the year though. And Rogers had the best stocked WalMart in the nation, Mr. Sam was in the store frequently.

Back in the mid 80s I had an '85 Ford Escort with the Mazda diesel (non-turbo engine) and a 5 speed. 100 miles commute, 47 miles per gallon ignoring the double nickel speed limit. When the mileage went down, time to change the air filter to return to 47 mpg. Kept it to 55 for a week so I could fill up and see what it would do. 51.5mpg (might have been 52.5, it was a long time ago). So of course a child wrecked it. Shame Americans never had a taste for diesel cars, I've had two and enjoyed them both (plus a truck I still have w/400k on the odometer).

I'd guess quite a bit more than 50% of my county workers work outside the county. Same problem with distance. Don't know if the co-op would be very helpful if anyone wanted to set up a home charging station, but I'll never need to know. I'm about to leave for home on Wednesday. 1600 mile trip, I'll be home Thursday evening. Can't do that with an EV now, and probably not ever.

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Roy Weintraub 9 months ago

It took 20 yrs from inception to completion for I-540/I-49 to replace US 71. Now one can travel from Ft. Smith to Joplin on interstate, but there are no EV charging stations.

US 71 speed was limited to what the semi's were doing. Now it is a scenic route with many businesses and tourist attractions closed or gone.

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Gardiner L. Schneider 9 months ago

The pounds of ore total 85,000, not 500,000. Are you just guessing at the 415,000 pounds of over burden?

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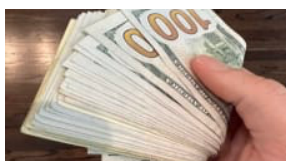
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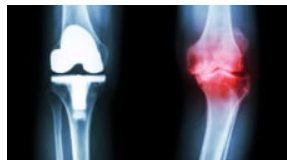
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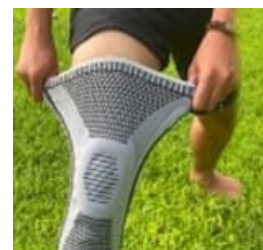
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