

Electric Cars Are Not ‘Zero-Emission Vehicles’

While praising California’s [decision](#) to ban the sale of new gasoline-powered cars by 2035, Governor Gavin Newsom [declared](#) that this will require “100% of new car sales in California to be zero-emission vehicles” like “electric cars.” In reality, electric cars emit substantial amounts of pollutants and may be more harmful to the environment than conventional cars.

Toxic Pollution

The notion that electric vehicles are “zero-emission” is rooted in a deceptive narrative that ignores all pollutants which don’t come out of a tailpipe. Assessing the environmental impacts of energy technologies requires measuring all forms of pollution they emit over their entire lives, not a narrow slice of them. To do this, researchers perform “life cycle assessments” or LCAs. As explained by the [Environmental Protection Agency](#), LCAs allow for:

the estimation of the cumulative environmental impacts resulting from all stages in the product life cycle, often including impacts not considered in more traditional analyses (e.g., raw material extraction, material transportation, ultimate product disposal, etc.). By including the impacts throughout the product life cycle, LCA provides a comprehensive view of the environmental aspects of the product or process and a more accurate picture of the true environmental trade-offs in product and process selection.

LCAs are [subject](#) to [multiple](#) levels of [uncertainty](#), but an assessment published by the [Journal of Cleaner Production](#) in 2021 shatters the notion that electric cars are cleaner than conventional ones, much less “zero emission.” The LCA found that manufacturing, charging, operating, and disposing of

electric vehicles produces more of every major category of pollutants than conventional cars. This includes:

an increase in fine particulate matter formation (26%), human carcinogenic (20%) and non-carcinogenic toxicity (61%), terrestrial ecotoxicity (31%), freshwater ecotoxicity (39%), and marine ecotoxicity (41%) relative to petrol vehicles.

Foreshadowing that result, a 2018 report by the [European Environment Agency](#) warned that studies on the “human toxicity impacts” of electric vehicles were “limited” and that electric cars “could be responsible for greater negative impacts” than conventional cars.

Similarly, a 2018 article in the journal [Environmental Research Letters](#) stated that a failure to account for the “environmental implications” of mining lithium to make batteries for electric cars “would directly counter the intent” of “incentivizing electric vehicle adoption” and “needs to be urgently addressed.”

The 2021 paper in the [Journal of Cleaner Production](#) has now addressed this issue, and it shows electric cars emit more toxic pollution than gasoline-powered cars. Yet, politicians who embraced the electric car agenda before comprehensive data was available continue to plow ahead in spite of the facts.

Local Pollution

Regardless of overall toxic emissions, the [European Environment Agency](#) points out that electric vehicles “potentially offer local air quality benefits” because pollution from their manufacturing, charging, and disposal is usually emitted away from densely populated areas.

Simply stated, switching to electric cars transfers pollution from urbanites in wealthy nations to poor countries that mine and manufacture their components and to communities with power

plants and disposal sites. In the words of the 2021 paper in the [*Journal of Cleaner Production*](#), this “transfer of environmental burdens” causes “workers and ecosystems in third countries” to be “exposed to higher rates of toxic substances.”

China dominates the global supply chains for green energy components not merely because of cheap labor but because they have [lax environmental standards](#) that tolerate the pollution these products create. Thus, China supplies [78 percent](#) of the world’s solar cells, [80 percent](#) of the world’s lithium-ion battery chemicals, and [73 percent](#) of the world’s finished battery cells.

Highlighting the implications of “China’s role in supplying critical minerals for the global energy transition,” a 2022 study by the [Brookings Institute](#) found that “continued reliance on China” will “increase the risk that sourcing of critical minerals will cause or contribute to serious social or environmental harms.” It also [documents](#) that the U.S. and other wealthy nations have been unwilling to accept these harms on their own soils.

Even if Newsom disregards the health of poor and [slave laborers](#) in other nations, electric vehicles are still not “zero-emission” for the people of California. This is because electric vehicles emit pollutants from road, tire, and brake wear, and these forms of pollution are worse in electric vehicles than standard cars. Per a 2016 paper in the journal [Atmospheric Environment](#), “Electric vehicles are 24% heavier than their conventional counterparts,” and this creates more “non-exhaust emissions” like “tire wear, brake wear, road surface wear and resuspension of road dust.”

Greenhouse Gases

Carbon dioxide (CO₂) is the primary [greenhouse gas](#) emitted by human activity, and the 2021 paper in the [*Journal of Cleaner*](#)

[Production](#) found that electric cars emit 48 percent less CO₂ than gasoline-powered ones. Although this is lower, it is still far from “zero-emission.”

Moreover, a study published by the [Ifu Institute](#) of Germany in 2019 found that an electric Tesla Model 3 emits 11 percent to 28 percent more CO₂ over its lifespan than a diesel Mercedes C220D. Again, LCAs are subject to uncertainty, and no single study is an end-all, but this clearly proves that electric vehicles are far from emission-free.

With no regard for those facts, Gavin Newsom [asserts](#) that “California now has a groundbreaking, world-leading plan to achieve 100% zero-emission vehicle sales” that will help “solve this climate crisis.”

Contrary to Newsom’s claim of a “climate crisis,” a wide array of environmental and human welfare measures related to climate change have stayed level or improved for more than three decades. This includes [foliage productivity](#), [extinction rates](#), [forest cover](#), [agricultural production](#), [coastal flooding](#), [rainfall and droughts](#), [hurricanes](#), [tornadoes](#), and [extreme weather fatalities](#). These empirical facts refute more than 30 years of [failed predictions](#) by global warming alarmists.

Newsom then adds another layer of deception by [stating](#) that the plan reduces “dangerous carbon emissions” that “pollute our communities.” This misportrays CO₂ as a toxic, dirty substance. In reality, [it is](#) an organic, colorless, non-carcinogenic gas that has no toxic effects on humans until concentrations exceed at least 6 times the level in Earth’s atmosphere.

Referring to CO₂ as “carbon” is also [unscientific](#). That’s because CO₂ is not carbon, just like H₂O (water) is not hydrogen. There are more than [10 million](#) different carbon compounds, and calling CO₂ “carbon” conflates this relatively innocuous gas with highly noxious substances like carbon

monoxide and black carbon.

In summary, there is no reliable evidence that greenhouse gas reductions from electric cars will benefit anyone.

Consequences

Like Newsom, the [California Air Resources Board](#) boasts that “100% of new cars and light trucks sold in California will be zero-emission vehicles” by 2035. Assuming Newsom and the board members have at least a rudimentary knowledge of electric cars, calling them “zero-emission vehicles” is a lie.

A Google search reveals that journalists and many others are [also using](#) this inherently false phrase.

The harms of this deceit extend well beyond pollution. This is because electric cars are more costly than other options, and that’s why people rarely buy electric cars unless governments subsidize or mandate them. As documented by a 2021 paper in the journal [Transport and Environment](#):

Mass market adoption of electric vehicles will likely require either that governments restrict the sale of gasoline-powered vehicles (as planned in some countries and California) or that BEVs [battery electric vehicles] become cost-competitive with gasoline-powered vehicles of similar size and styling.

Regardless of whether these additional costs are paid by consumers or taxpayers, they make people poorer because these expensive cars ultimately travel fewer miles for every dollar spent.

The same applies to other “clean energy” policies that are prevalent in California. This is a major reason why it has the highest electricity prices in the continental U.S., or [77 percent](#) more than the national average.

Such policies increase the costs of living and have

contributed to making California the state with the [highest real poverty rate](#) in the nation.

Despite its “green” agenda, California dominates the American Lung Association’s list of cities with the [poorest air quality](#) in America. In fact, the nation’s worst four cities for ozone pollution, worst five cities for year-round particle pollution, and worst two cities for short-term particle pollution are all in California.

There are certainly many other factors besides energy policies that have led to those dreadful outcomes in California, but lying to people deprives them of the opportunity to make informed decisions about the pros and cons of these policies.

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