## Low Emission Vehicle Amendment

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## ELECTRIC CARS ARE NOT "ZERO-EMISSION VEHICLES"

In reality, electric cars emit substantial amounts of pollutants and may be more harmful to the environment than conventional cars.

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.

## https://www.heartland.org/news-opinion/news/electric-cars-are-not-zeroemission-vehicles



Regards, John Fannan Wilmington DE 19810