



Fuel-Related Emissions Savings from Electric Vehicles Relative to All-Gas Vehicles

PETER SOPHER
Policy Analyst, Clean Energy
Environmental Defense Fund

**2015 Behavior, Energy &
Climate Change Conference**

Sacramento, California

October 19, 2015

INTRODUCTION

Electric vehicles are marketed as enablers of “green” behavior.

But how much do electric vehicles actually improve environmental outcomes?

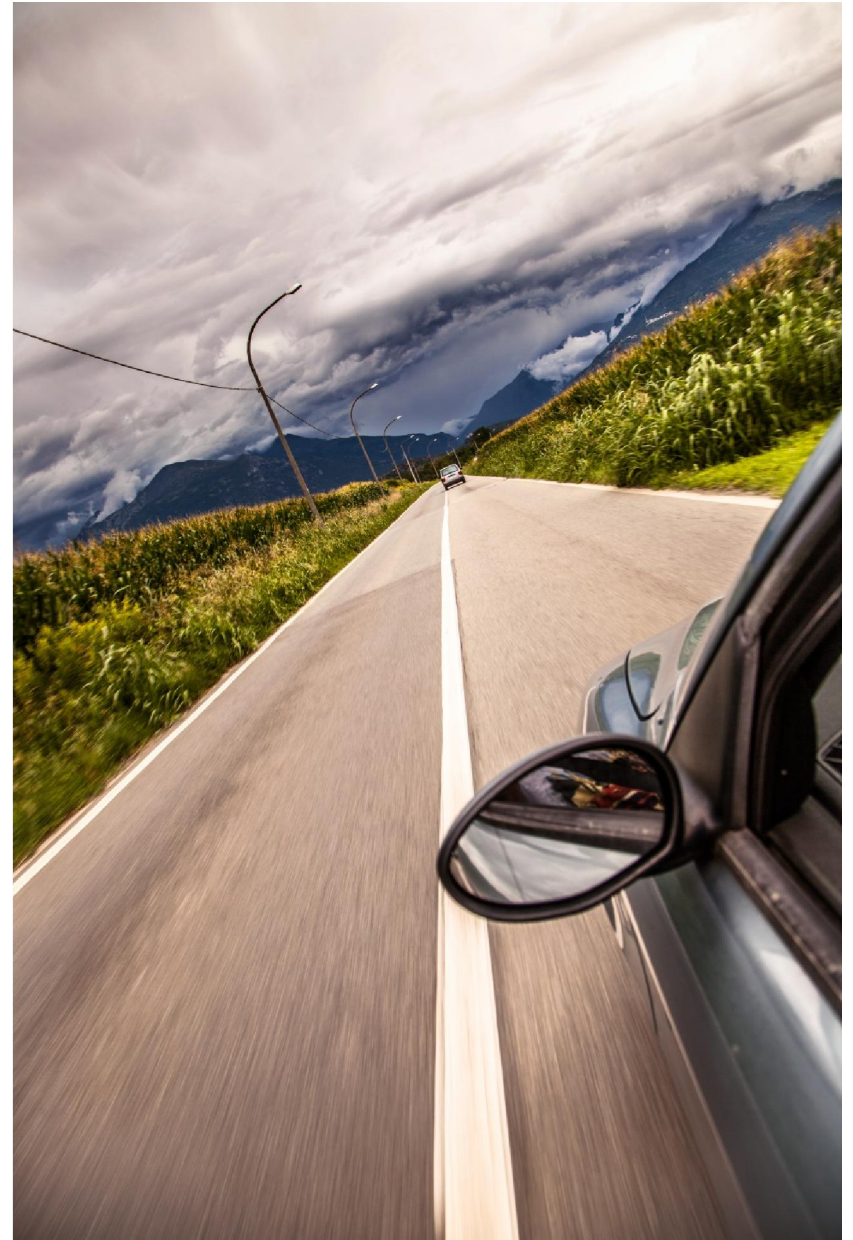
This paper focuses on fuel-related carbon emissions from EVs vs. traditional light-duty all-gas vehicles.



WHAT DIFFERENTIATES OUR PAPER

Analyses are anchored in empirical data, rather than simulations.

Robust methodology for determining fuel-related emissions associated with our sample's EVs at hourly, monthly, seasonal, and annual intervals.



FINDINGS

Based on our two scenarios – more conservative and less conservative – EVs in our sample **avoided 54% to 77% of fuel-related emissions** relative to gasoline-fueled light-duty vehicles.

The full range of our results was 28% to 89%, which corresponds to fuel-related emissions reductions of 1,759 to 9,152 lbs CO₂/year per EV.





Thank You

For more information, please contact:

Peter Sopher,
Policy Analyst, Clean Energy
Environmental Defense Fund
psopher@edf.org