# Study questions the environmental benefits of electric vehicles



A recent study conducted by researchers from the University of Auckland and Xiamen University has raised significant questions regarding the environmental advantages of electric vehicles (EVs). Published in the journal Energy, the research suggests that the carbon footprint of EVs may be larger than previously thought when the electricity used to charge them is generated from fossil fuels.

The study analysed data spanning 15 years across 26 countries, aiming to understand the intricate relationship between human activities and carbon dioxide (CO₂) emissions. Through a rigorous statistical approach, the researchers uncovered a concerning trend: an increase in EV adoption correlates with a rise in CO₂ emissions in several nations. This phenomenon occurs primarily in regions where electricity generation still heavily relies on burning fossil fuels such as coal and oil.

Associate Professor Stephen Poletti and Simon Tao, a doctoral candidate at the Business School’s Energy Centre, were key contributors to the research. They found that, contrary to popular belief, the global adoption of EVs has not led to a significant reduction in CO₂ emissions. “On the contrary, EV adoption is positively associated with CO₂ emissions," noted Tao. "This finding appears counterintuitive; it challenges the conventional belief that EVs contribute to decarbonisation."

For instance, when EVs are charged using electricity from coal-fired power plants, their net contribution to emissions may surpass that of contemporary gasoline or diesel vehicles. “In that case, they may indirectly contribute to higher emissions than modern gasoline or diesel vehicles, especially considering the entire lifecycle from production to disposal,” Poletti explained.

This study underlines the importance of evaluating the entire energy ecosystem in which electric vehicles operate, indicating that the environmental benefits of switching to EVs are inherently linked to the sources of electricity used for charging. As countries work towards reducing their carbon footprints, the findings bring to the forefront the complexities associated with energy production and consumption, suggesting that a holistic approach will be necessary to truly achieve decarbonisation in the transportation sector.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://insidegovernment.co.nz/study-finds-global-ev-uptake-fails-to-cut-co%E2%82%82/> - This URL supports the claim that a study conducted by researchers from the University of Auckland and Xiamen University found that global EV adoption is linked to increased CO₂ emissions due to reliance on fossil fuels for electricity generation. It highlights the significance of clean energy sources for EVs' environmental benefits.
* <https://www.miragenews.com/global-ev-adoption-fails-to-cut-co-study-1441163/> - This article corroborates the findings of the study that EV adoption has not led to a significant reduction in CO₂ emissions and emphasizes the need for clean energy to fully realize the environmental benefits of electric vehicles.
* <https://ir.canterbury.ac.nz/server/api/core/bitstreams/300f7c6e-8b38-418d-8a3d-bee82584aa6a/content> - This study examines the impact of electric vehicles on the energy system in New Zealand, demonstrating how a high share of renewable energy can align with effective decarbonization through EVs. It underscores the importance of the energy mix for EV emissions.
* <https://www.internationaljournalofenergy.com/article/10.1016/j.ijhydene.2023.02.170/fulltext> - Unfortunately, this specific link could not be verified, but it might pertain to studies on energy systems and the impact of EV charging, which is relevant to discussions on EV emissions and renewable energy.
* <https://www.ipcc.ch/report/ar6/wg1/> - This IPCC report on climate change provides context for why reducing CO₂ emissions is crucial. It indirectly supports the necessity of considering the electricity mix when evaluating the environmental benefits of EVs.