



THE CURRENT STATE OF ELECTRIC VEHICLE SUBSIDIES: ECONOMIC, ENVIRONMENTAL, AND DISTRIBUTIONAL IMPACTS

Subsidies for electric vehicle (EV) production and consumption are often promoted as a way to reduce local air pollution, reduce carbon emissions, and boost the rate of technological innovation. Support for these ideas has been strong enough that government policies designed to encourage the adoption of electric vehicles exist at the federal, state, and local level in the United States. Despite these subsidies, for most consumers EVs remain less cost-effective than gasoline or gasoline-electric hybrid vehicles. However, declining battery prices and the promise of future innovation suggest that adoption rates may accelerate.

The total cost of subsidies for EVs in the United States is substantial, accounting for billions of dollars of government spending. Some of these policies are targeted at consumers. For example, federal and state tax credits provide consumers with a direct financial incentive to purchase these vehicles. Other policies are targeted at producers, including federal grants and loans to automakers of electric vehicles and manufacturers of EV batteries. Other implicit or explicit subsidies exist as well. Electric vehicles are often given preferential treatment with regard



to high-occupancy vehicle (HOV) lanes, registration fees, or government-funded support infrastructure including charging stations.

EV subsidies distort economic incentives causing welfare losses, exacerbate economic inequality, and do not show robustly positive environmental benefits. Given these considerations, we recommend eliminating the subsidies for these vehicles.

Key Findings

- Subsidies for electric vehicles are widespread, varied, and are funded by federal, state, and city governments. They include subsidies for consumer purchases of EVs, subsidies for producers of EVs, subsidies for EV infrastructure, and other various side benefits to EV owners.
- The total cost of EV subsidies is substantial. The federal subsidy could end up costing as much as \$15 to \$20 billion, while the cost of state subsidies could be as high as \$400 million to almost \$500 million.
- Electric vehicles can provide environmental benefits if the electricity they use comes from a clean grid. Unfortunately, these benefits are relatively small, and wealthy neighborhoods are more likely to receive them. More frequently, electric vehicles can cause environmental damages when the gasoline they displace is replaced by dirtier fuels like coal.
- Electric vehicles can reduce carbon emissions, but the cost of reducing a ton of carbon through EV subsidies is vastly greater than the EPA's estimates of how much damage a ton of carbon causes.
- Innovation spillovers could result from electric vehicle research and development, but direct consumer subsidies are an expensive and ineffective method for generating innovation.
- Electric vehicle subsidies are highly regressive, even when compared with other clean energy subsidies. The benefits of this subsidy are concentrated among those who have high incomes, while the costs are dispersed among all taxpayers.

At Strata, our mission is to help people make informed decisions about issues that impact the freedom to live their lives. We work to achieve more prosperous and free societies by affecting a change in the climate of ideas. We do this by conducting robust research on energy and environmental issues, informing policy makers, citizens and civic leaders, and by mentoring high-achieving students to become future decision makers. Strata is located in Logan, Utah. We draw from the collective academic strength and ideas from the faculty and students at Utah State University and a strong network of academics and professionals throughout the world.

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