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16. Abstract

This report examines the current status and recent progress regarding various technical and public acceptance-related issues that have historically hindered the more widespread acceptance and adoption of plug-in electric vehicles (PEVs), which includes both battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV). As a reference for comparison, information for current gasoline-powered internal combustion engines is also presented where appropriate.

The main issues explored in this report include:

- vehicle availability, including sales trends and costs
- fuel economy, GHG emissions, and petroleum usage
- batteries, charging time, driving range, and range anxiety
- charging infrastructure availability and smart charging
- public opinion and government support

Overall, recent advances and improvements in several of these areas have led to PEVs becoming increasingly more competitive with conventional gasoline-powered internal combustion engine (ICE) vehicles. Furthermore, future costs of the vehicles and fuel, coupled with rising public interest and increasing numbers of charging locations, are expected to make such vehicles even more capable of replacing ICE vehicles for the majority of U.S. drivers in the relatively near future.

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