

# Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles



The light-duty vehicle fleet is expected to undergo substantial technological changes over the next several decades. New powertrain designs, alternative fuels, advanced materials and significant changes to the vehicle body are being driven by increasingly stringent fuel economy and greenhouse gas emission standards. By the end of the next decade, cars and light-duty trucks will be more fuel efficient, weigh less, emit less air pollutants, have more safety features, and will be more expensive to purchase relative to current vehicles. Though the gasoline-powered spark ignition engine will continue to be the dominant powertrain configuration even through 2030, such vehicles will be equipped with advanced technologies, materials, electronics and controls, and aerodynamics. And by 2030, the deployment of alternative methods to propel and fuel vehicles and alternative modes of transportation, including autonomous vehicles, will be well underway. What are these new technologies - how will they work, and will some technologies be more effective than others? Written to inform The United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and Environmental Protection Agency (EPA) Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emission standards, this new report from the National Research Council is a technical evaluation of costs, benefits, and implementation issues of fuel reduction technologies for next-generation light-duty vehicles. Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to commercial deployment of technologies that might be employed from 2020 to 2030. This report describes these promising technologies and

makes recommendations for their inclusion on the list of technologies applicable for the 2017-2025 CAFE standards.

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light-duty vehicle fleet is expected to undergo substantial **Cost, Effectiveness and Deployment of Fuel Economy Technologies** Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles.

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**National Research Council Report Cost, Effectiveness and** Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles: A Canadian Perspective. The Royal Society of Canada is pleased to **Cost,**

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**Appendix G: Friction Reduction in Downsized Engines** **Cost** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles - Kindle edition by Phase 2 Committee on the Assessment of **Appendix Q:**

**Examples of EPAs Standards for Gasoline** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to **Cost, Effectiveness, and Deployment of Fuel Economy Technologies** Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles: A Canadian Perspective. The Royal Society of Canada is pleased to **Summary Cost, Effectiveness, and Deployment of Fuel Economy** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles eBook: Phase 2 Committee on the Assessment of Technologies for **1 Introduction Cost, Effectiveness, and Deployment of Fuel** Jun 18, 2015 The Corporate Average Fuel Economy (CAFE) standards require that with the agencies costs and effectiveness analyses for many technologies. and Deployment of Fuel Economy Technologies for Light-Duty Vehicles **Front Matter Cost, Effectiveness, and Deployment of Fuel Economy** Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles, a study carried out for NHTSA by the National Research Council **Appendix J: Reasons for Potential Differences from NHTSA** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to **Appendix B: Committee Biographies Cost, Effectiveness, and** The light-duty vehicle fleet is expected to undergo substantial technological changes over the next several decades. New powertrain designs, alternative fuels, **Cost, Effectiveness and Deployment of Fuel Economy Technologies** National Research Council Division on Engineering and Physical Sciences Board on Energy and Environmental Systems Committee on the Assessment of Technologies for Improving Fuel Economy of Light-Duty Vehicles, Phase 2. New powertrain designs, alternative fuels, advanced **Assessment of Fuel Economy Technologies for Light-Duty Vehicles** National Research Council Division on Engineering and Physical Sciences Board on Energy and Environmental Systems Committee on the Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy. Various combinations of commercially available technologies could greatly **Cost, Effectiveness, and Deployment of Fuel Economy Technologies** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to **Cost, Effectiveness, and Deployment of Fuel Economy Technologies** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles [National Research Council, Division on Engineering and Physical **Cost, Effectiveness, and Deployment of Fuel Economy Technologies** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to **Appendix P: Fuel Consumption Impact of Tier 3 Emission Standards** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to **Cost, Effectiveness and Deployment of Fuel Economy Technologies** Mar 3, 2014 Cost, Effectiveness and Deployment of Fuel Economy. Technologies for Light-Duty Vehicles. Committee on the Assessment of Technologies for **Appendix A: Statement of Task Cost, Effectiveness, and** The light-duty vehicle fleet is expected to undergo substantial technological changes over the next several decades. New powertrain designs, alternative fuels, **10 Overall Assessment of CAFE Program Methodology and Design** Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to