

2013 Vehicle Technologies Market Report



Quick Facts

Energy and Economics

- Transportation accounts for 28% of total U.S. energy consumption.
- Dependence on oil cost the U.S. economy \$500 billion in 2012.
- The average price of a new car is just over \$25,000.
- Almost 18% of household expenditures are for transportation.
- Over 9 million people are employed in the transportation industry.

Light Vehicles

- The top nine manufacturers selling vehicles in the U.S. produce about half of the world's vehicles.
- U.S. sales volumes continued to rise in 2012.
- Sales-weighted data on new light vehicles sold show a 121% increase in horsepower and 35% decrease in 0-60 time from 1980 to 2013, with the fuel economy of vehicles improving 25%.
- Nearly 17% of cars sold in 2013 have continuously variable transmissions.
- Almost two-thirds of new light vehicles sold in 2013 have transmissions with more than 5 speeds.

Heavy Trucks

- Class 8 combination trucks consume an average of 6.5 gallons per thousand ton-miles.
- Class 3 truck sales have continued to increase in 2012.
- Sales of class 4-7 trucks continued to increase in 2012, but were more than 5% below the 2008 level.
- Class 8 truck sales continued to increase in 2012 and have risen drastically above 2009 figures.
- Diesel comprised 74% of the class 3-8 trucks sold in 2012, up from 72% in 2008.
- Combination trucks are driven an average of over 66,000 miles per year.
- Idling a truck-tractor's engine can use more than a gallon of fuel per hour.
- There are 116 electrified truck stop sites across the country to reduce truck idling time.

Technologies

- Almost 500,000 hybrid vehicles were sold in 2013.
- Plug-in vehicle sales total nearly 100,000 units in 2013.
- At least 24 different models of plug-in vehicles are available or coming soon to the market.
- Eighty-two flex-fuel vehicle models were offered in model year 2013.
- There are more than 20,835 electric vehicle charging stations throughout the nation.
- Single wide tires on a Class 8 truck improve fuel economy by more than 7% on flat terrain.

Policy

- Plug-in hybrids and electric vehicle purchasers received a Federal tax credit of up to \$7,500 for select 2010-2014 vehicles and possible state credits.
- The proposed EPA greenhouse gas standards for cars raises average fuel economy for new cars to 54.5 mpg by 2025, while the NHTSA Corporate Average Fuel Economy Standards are 49.0 mpg by 2025.
- Since model year 2010, diesel engine emission standards are more strict – 0.2 grams per horsepower-hour (g/HP-hr) for nitrogen oxides and 0.01 g/HP-hr for particulate matter.

2013 VEHICLE TECHNOLOGIES MARKET REPORT

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Introduction

Welcome to the *2013 Vehicle Technologies Market Report*. This is the fifth edition of this report, which details the major trends in U.S. light-duty vehicle and medium/heavy truck markets as well as the underlying trends that caused them. This report is supported by the U.S. Department of Energy's (DOE) Vehicle Technologies Office (VTO), and, in accord with its mission, pays special attention to the progress of high-efficiency and alternative-fuel technologies.

After opening with a discussion of energy and economics, this report features a section each on the light-duty vehicle and heavy/medium truck markets, and concluding with a section each on technology and policy. The first section on Energy and Economics discusses the role of transportation energy and vehicle markets on a national (and even international) scale. For example, Figures 12 through 14 discuss the connections between global oil prices and U.S. GDP, and Figures 21 and 22 show U.S. employment in the automotive sector. The following section examines Light-Duty Vehicle use, markets, manufacture, and supply chains. Figures 24 through 51 offer snapshots of major light-duty vehicle brands in the U.S. and Figures 56 through 64 examine the performance and efficiency characteristics of vehicles sold. The discussion of Medium and Heavy Trucks offers information on truck sales (Figures 73 through 75) and fuel use (Figures 78 through 81). The Technology section offers information on alternative fuel vehicles and infrastructure (Figures 84 through 95), and the Policy section concludes with information on recent, current, and near-future Federal policies like the Corporate Average Fuel Economy standard (Figures 106 through 110).

In total, the information contained in this report is intended to communicate a fairly complete understanding of U.S. highway transportation energy through a series of easily digestible nuggets. On behalf of the DOE and VTO, I hope that you explore and find value in this report. Suggestions for future expansion, additional information, or other improvements are most welcome.

Sincerely,



Jacob Ward
Analysis Manager
Vehicle Technologies Office
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

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Chapter 1.

ENERGY AND ECONOMICS

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