



Annual Energy Outlook 2003 Projections of Light Vehicle Energy Use and Travel

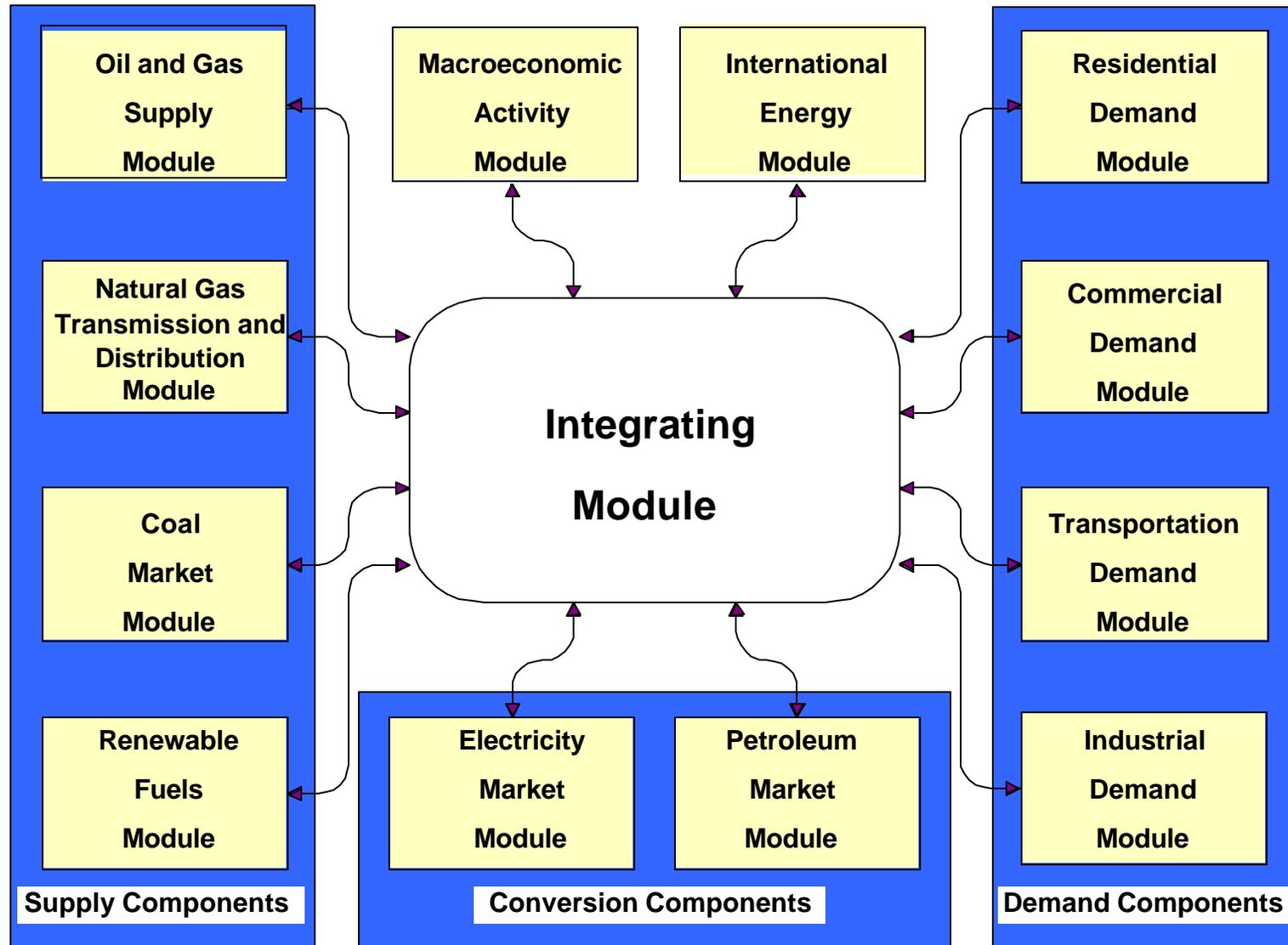
January 13, 2003

John Maples
Energy Information Administration

Topics

- National Energy Modeling System (NEMS) Overview
- Light Vehicle Demand Module
- Light Vehicle Projections
 - Sales, Fuel Economy, Travel, Energy Use
- Uncertainties
- Summary

National Energy Modeling System





Light Duty Vehicle Module

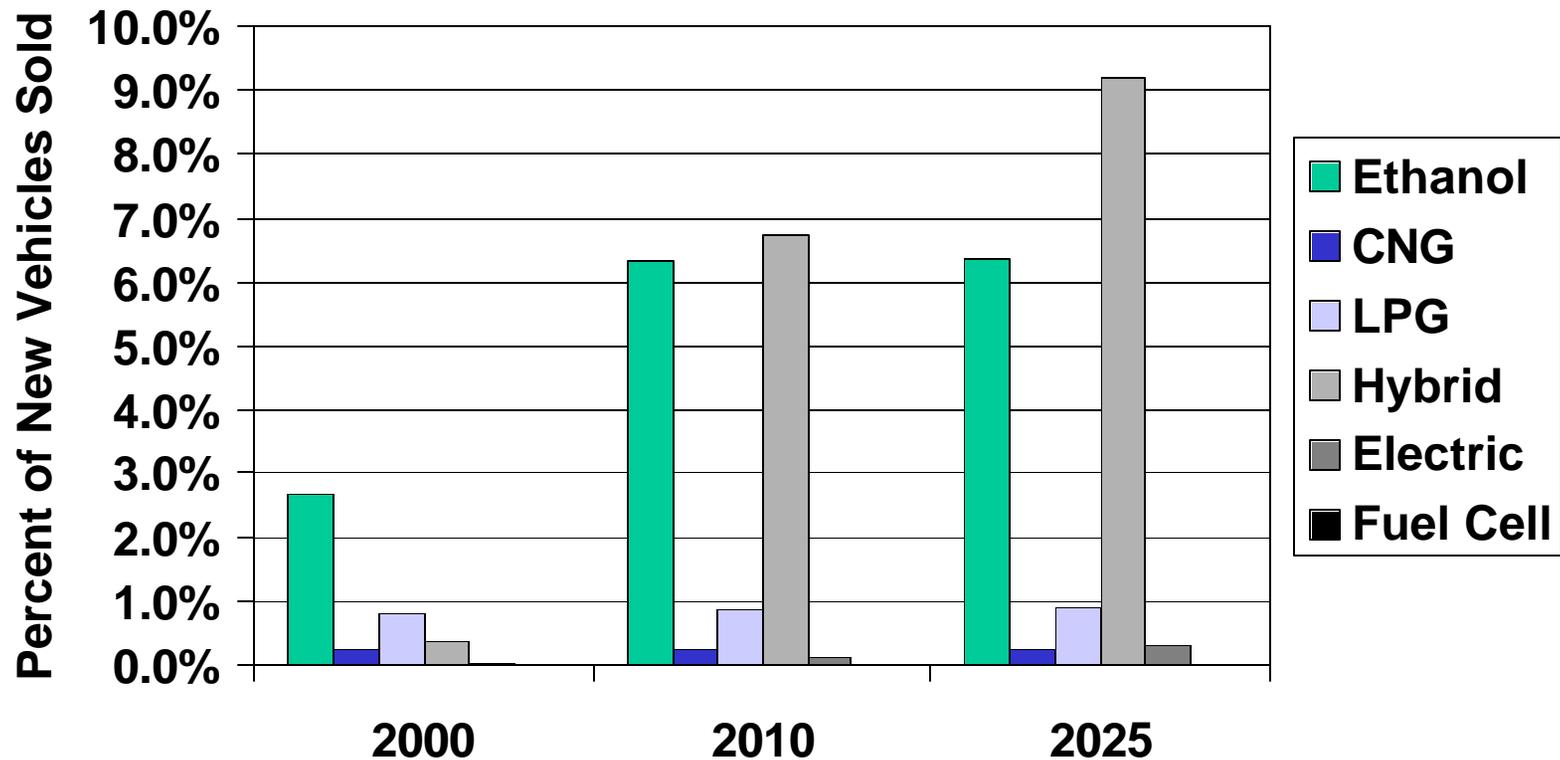
- Household and fleet market
- New vehicle sales modeled by car and light truck, EPA size class, and import vs. domestic
- 8 fuel types and 5 propulsion systems addressed
- Endogenously estimates vehicle attributes using menu of 63 advanced technologies
- Technology adoption driven by demand for increased fuel economy and/or performance
- 20 vintage stock model with scrappage rates for cars and light trucks



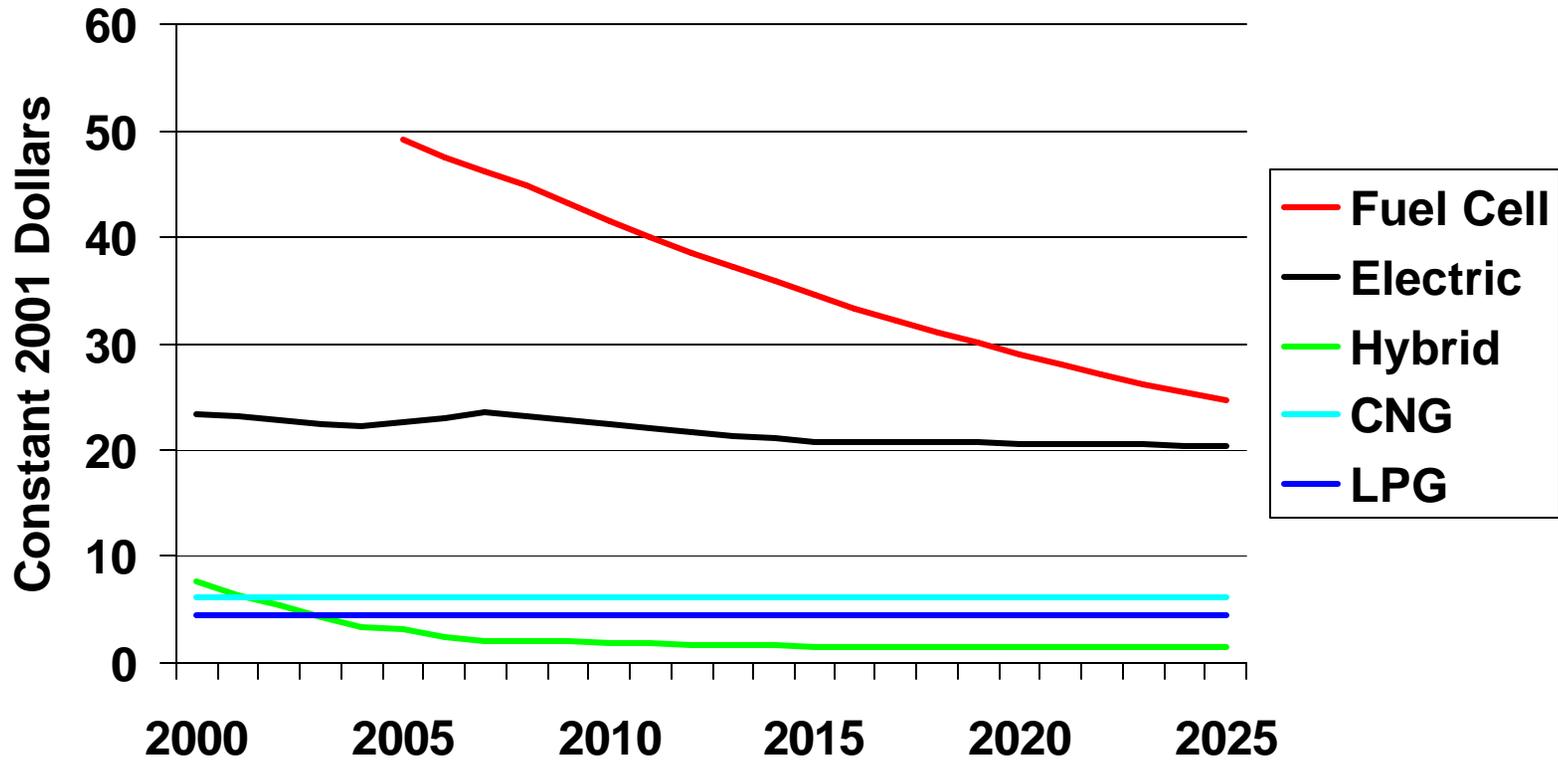
Light Duty Vehicle Module

- Consumer preference for alternative fuels and advanced technology vehicles determined using multinomial nested logit model
 - vehicle price, fuel cost, fuel availability, acceleration, range, luggage space, home refueling capability, maintenance cost, battery replacement cost and make/model availability
 - Mandated sales requirements from LEVP and EPA Act
- Travel estimated as function of income, driving age population, cost of driving, and female travel as a percent of male travel

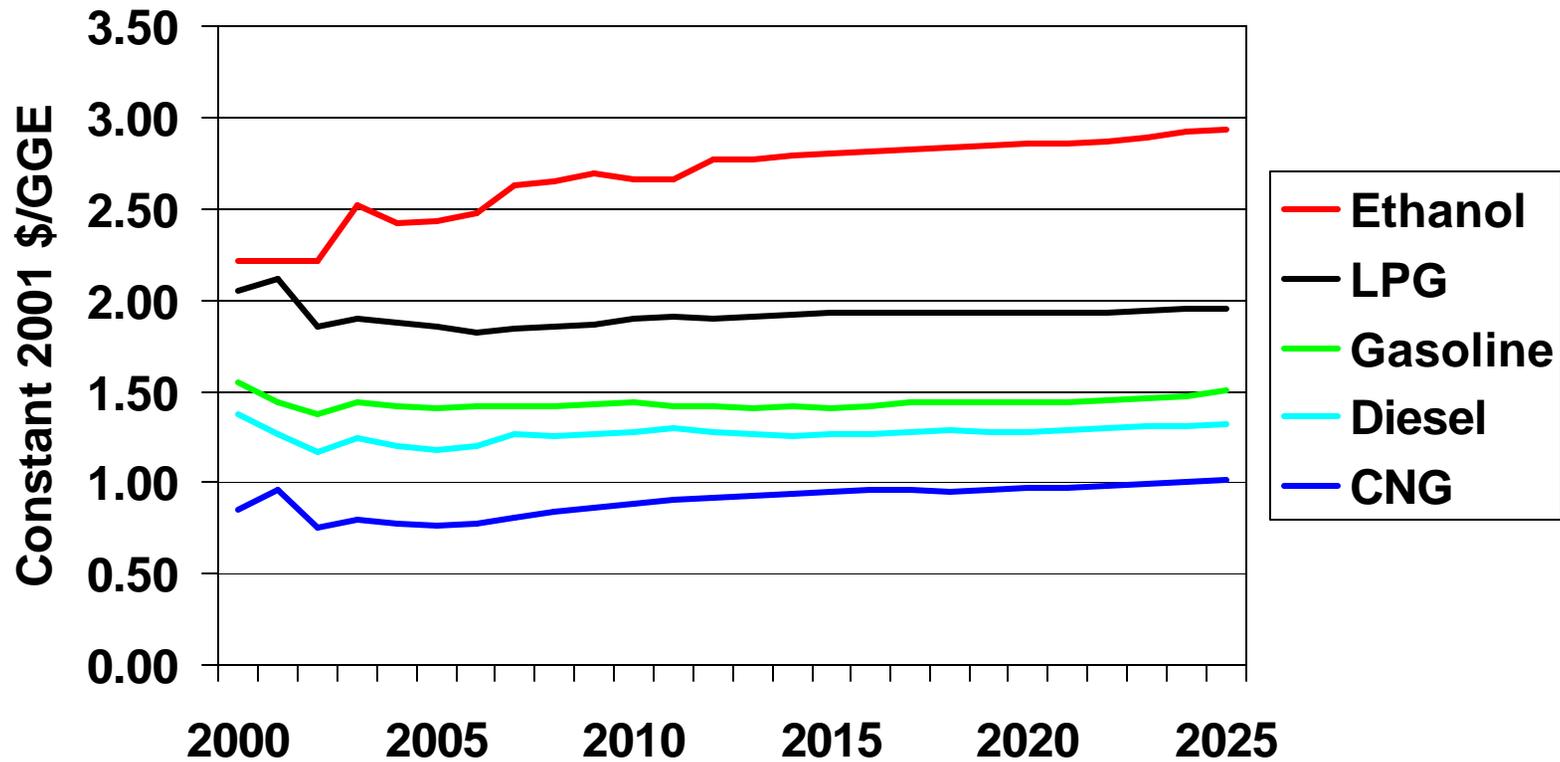
Sales of Advanced Technology and Alternative Fuel Vehicles



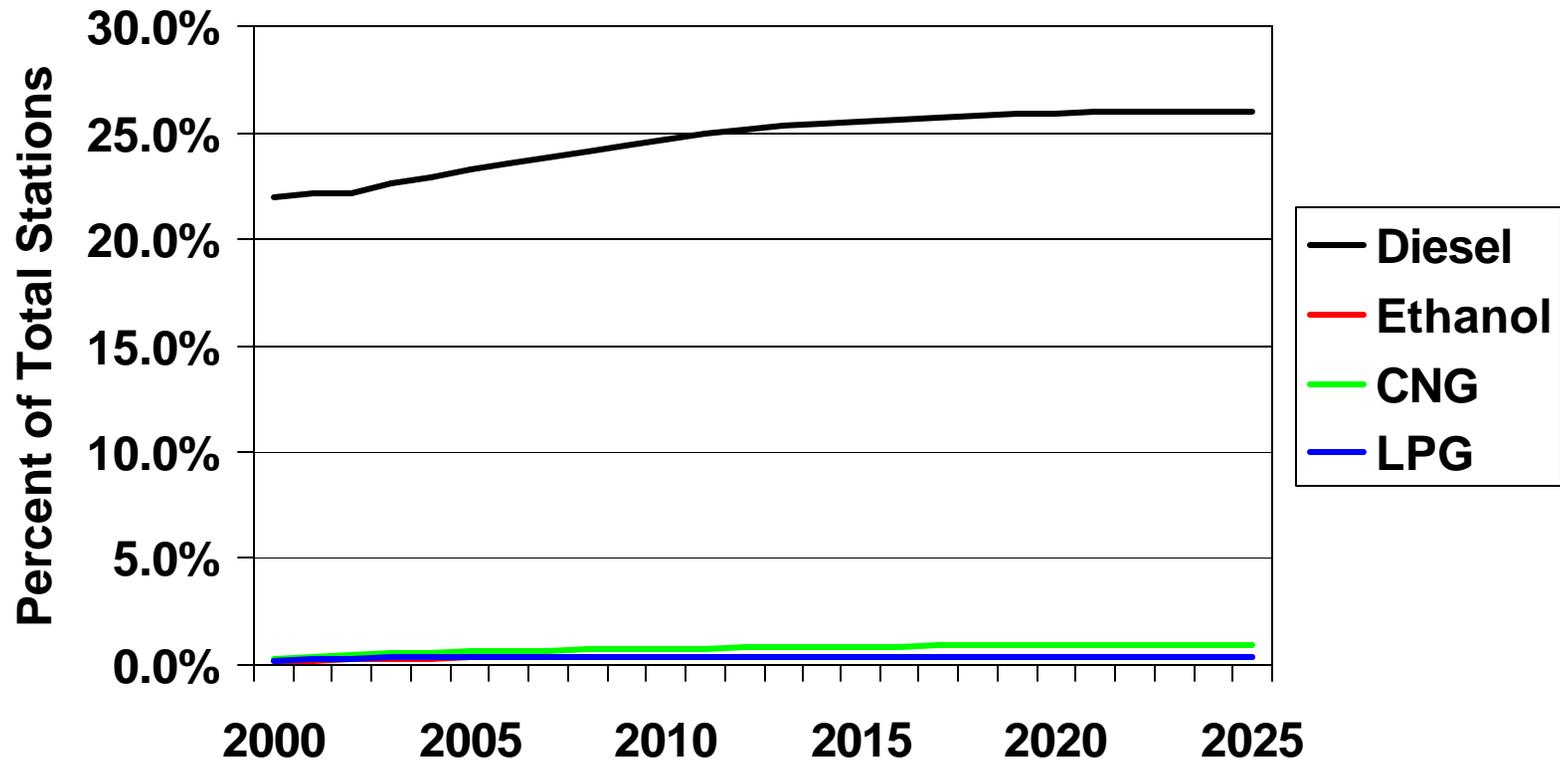
Incremental Cost of Advanced Vehicles (Compact Car)



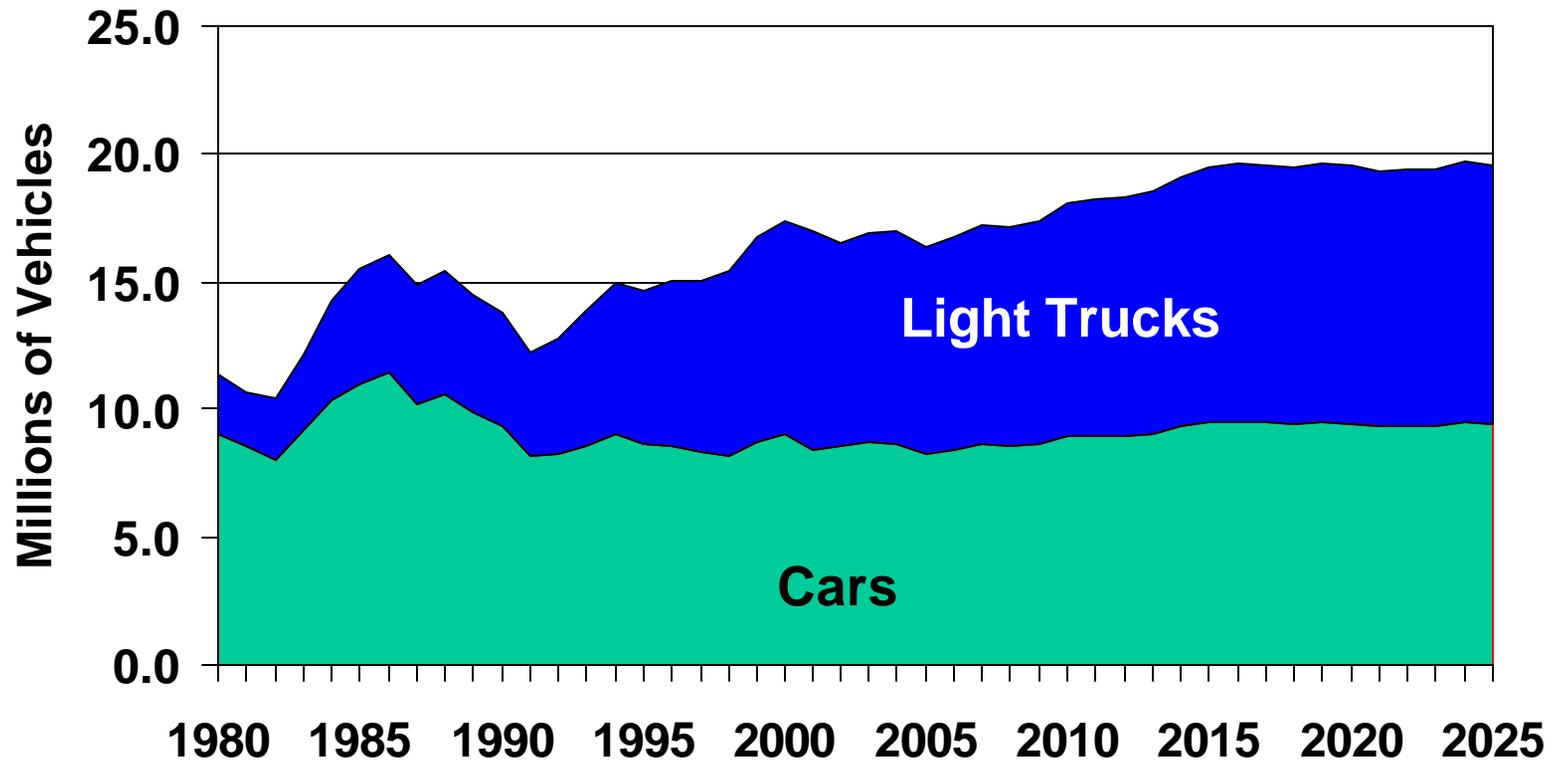
Projected Highway Fuel Prices



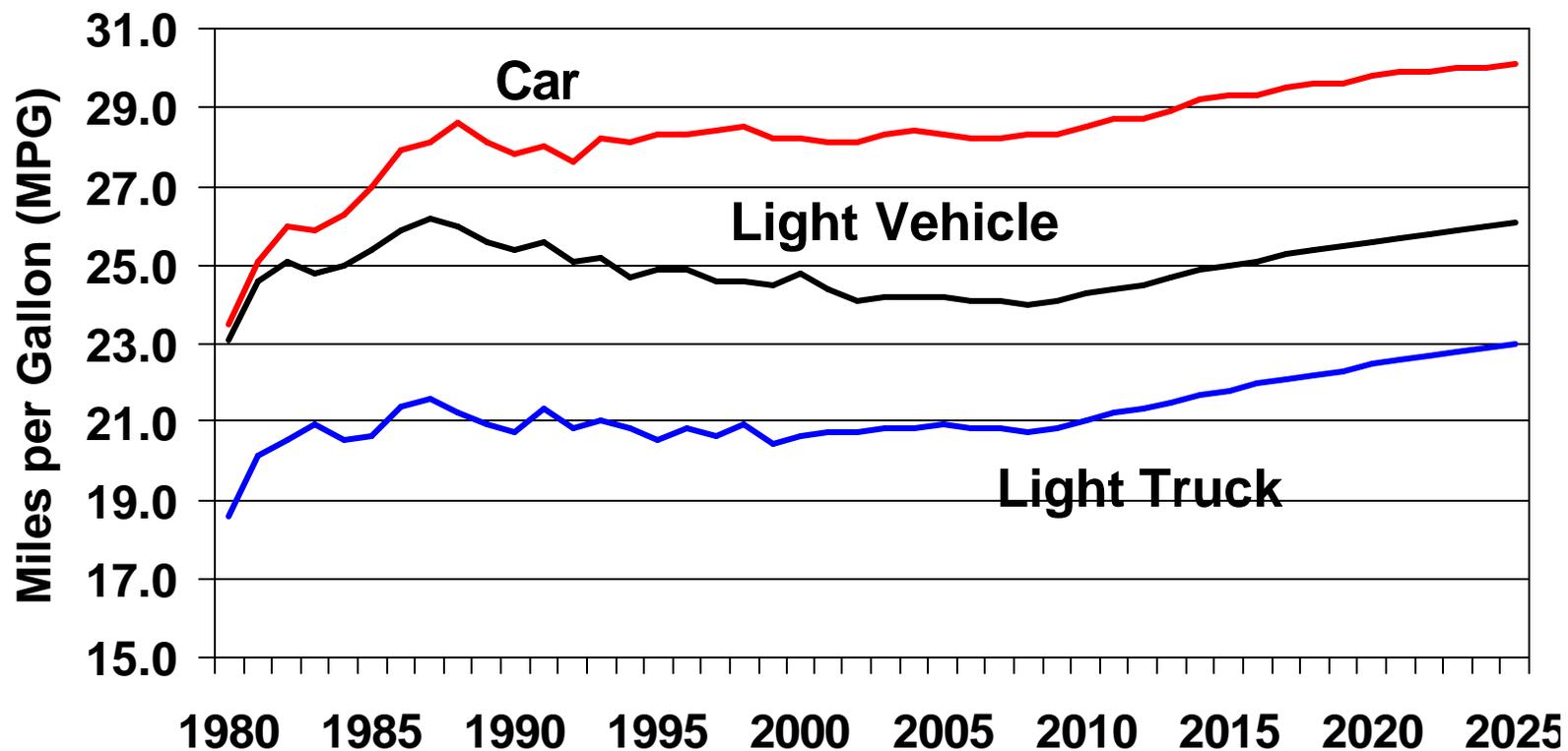
Projected Highway Fuel Availability



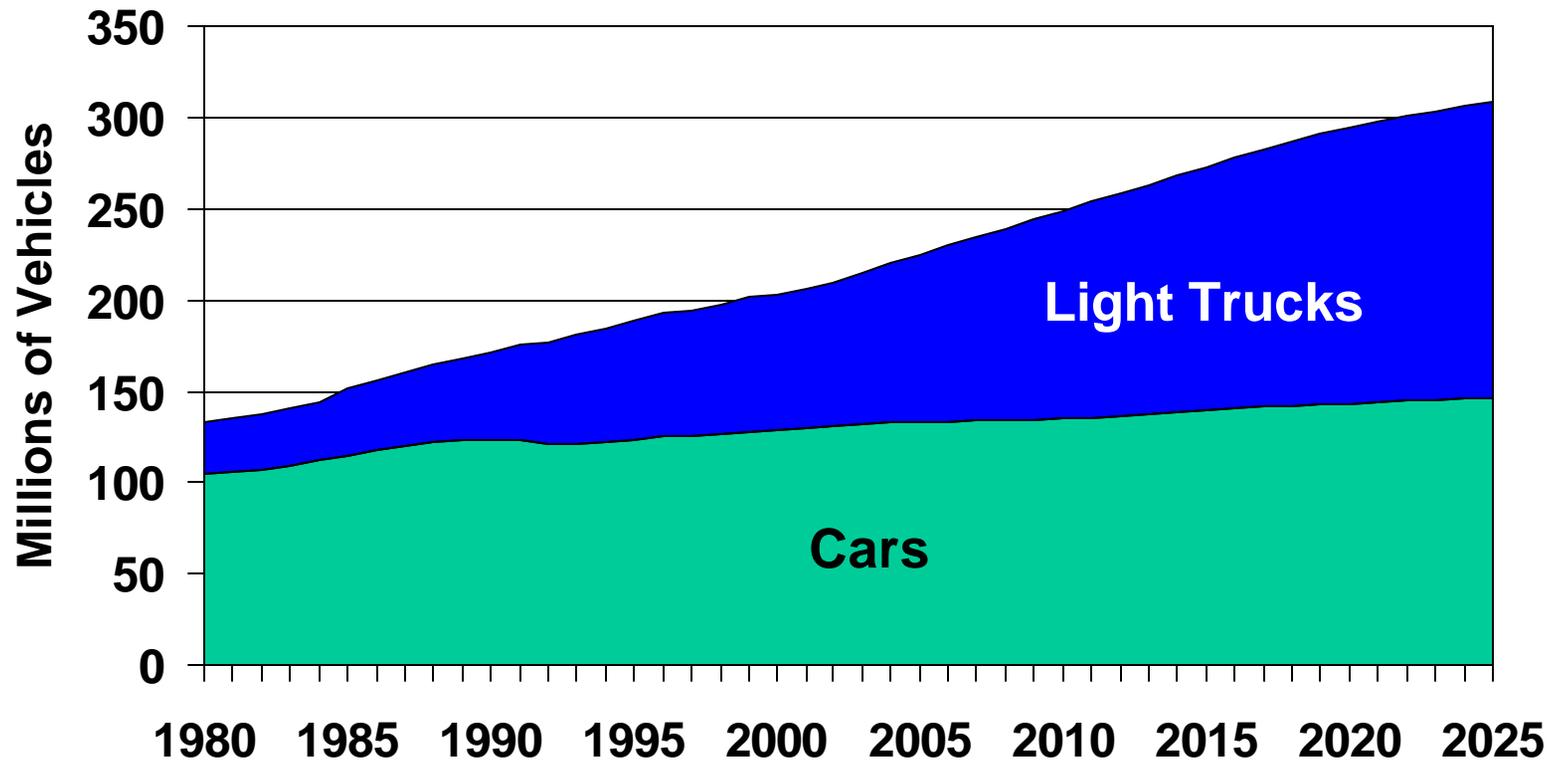
New Light Vehicle Sales



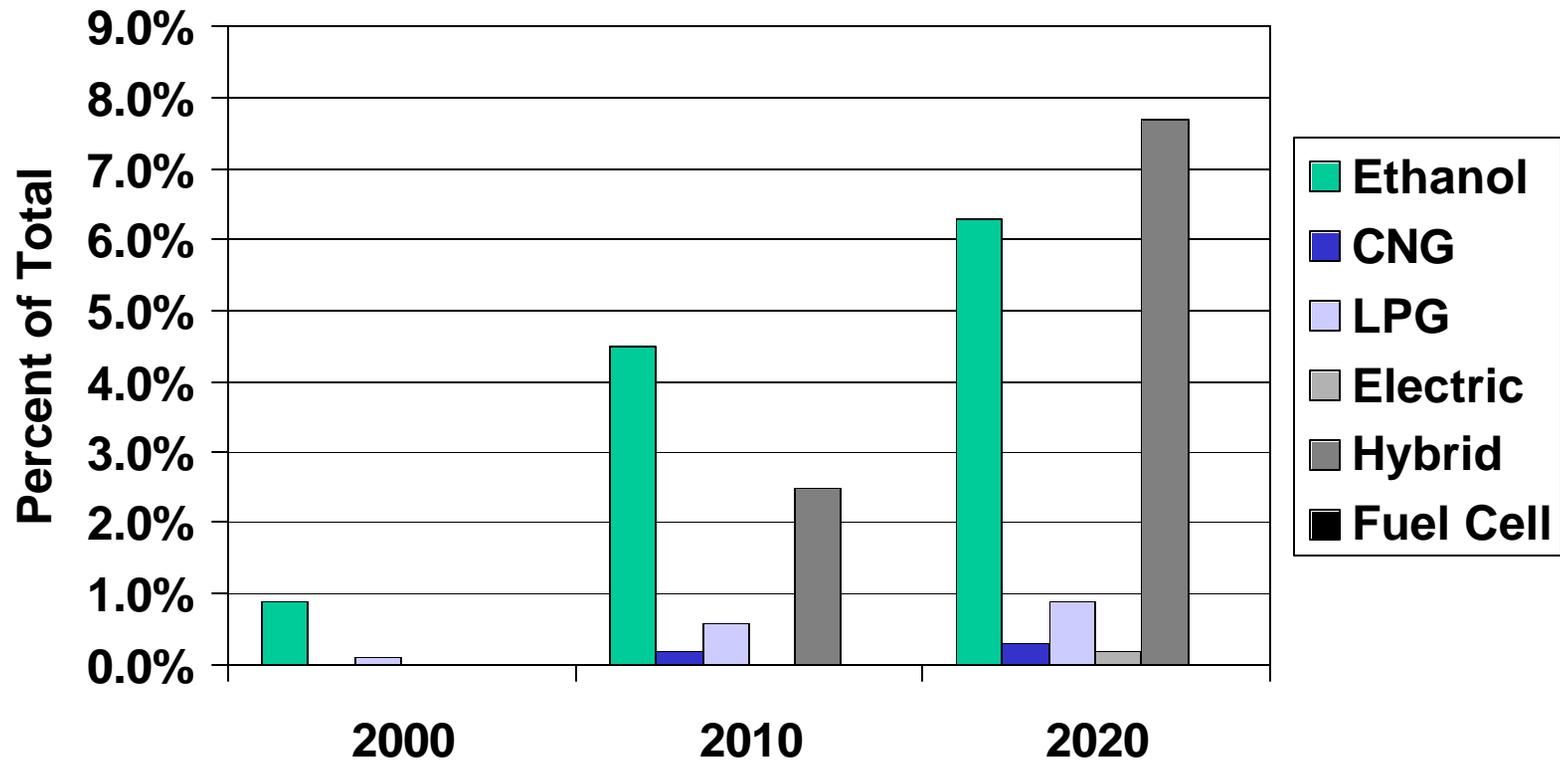
New Light Vehicle Fuel Economy



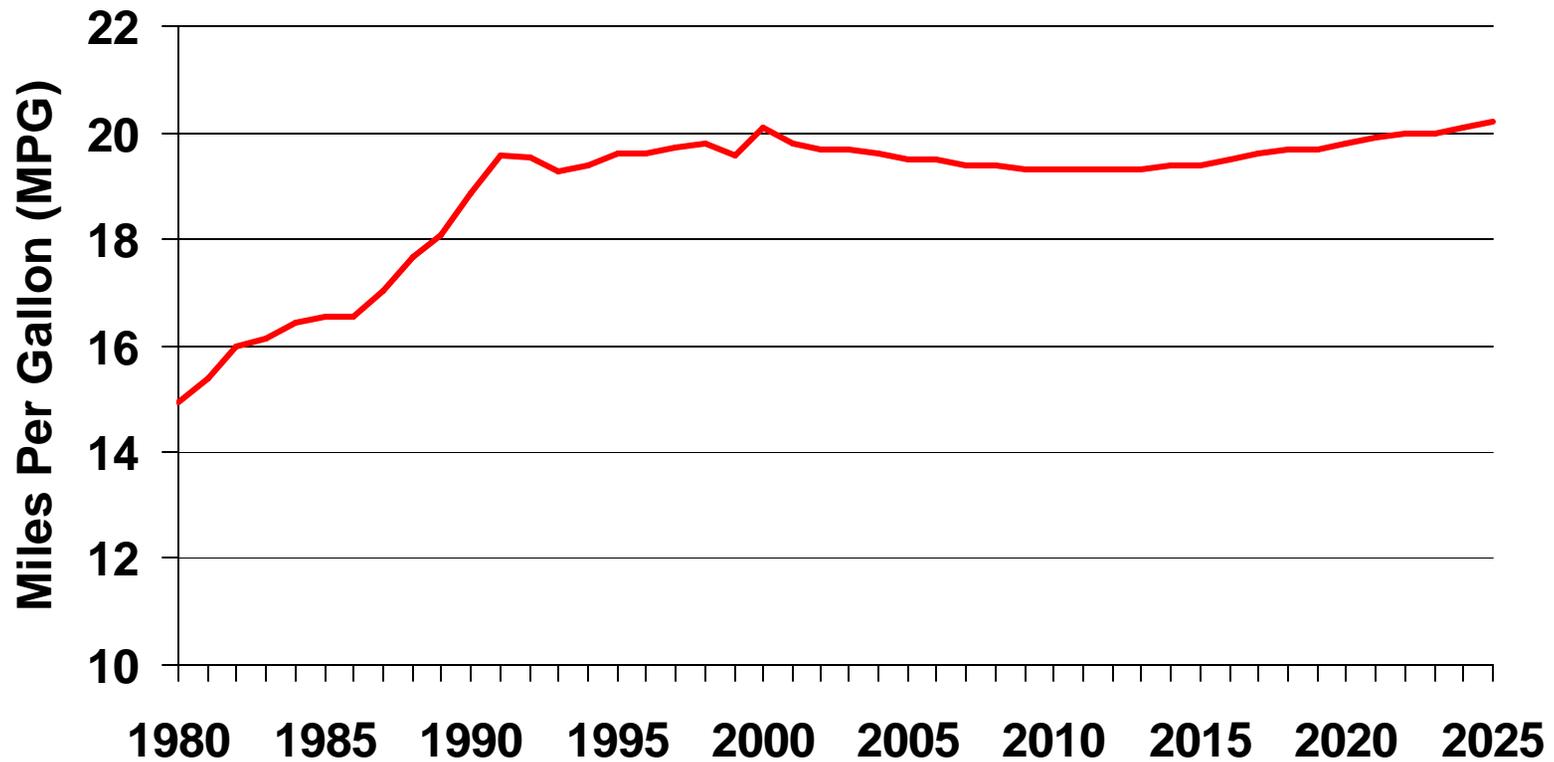
Light Vehicle Stock



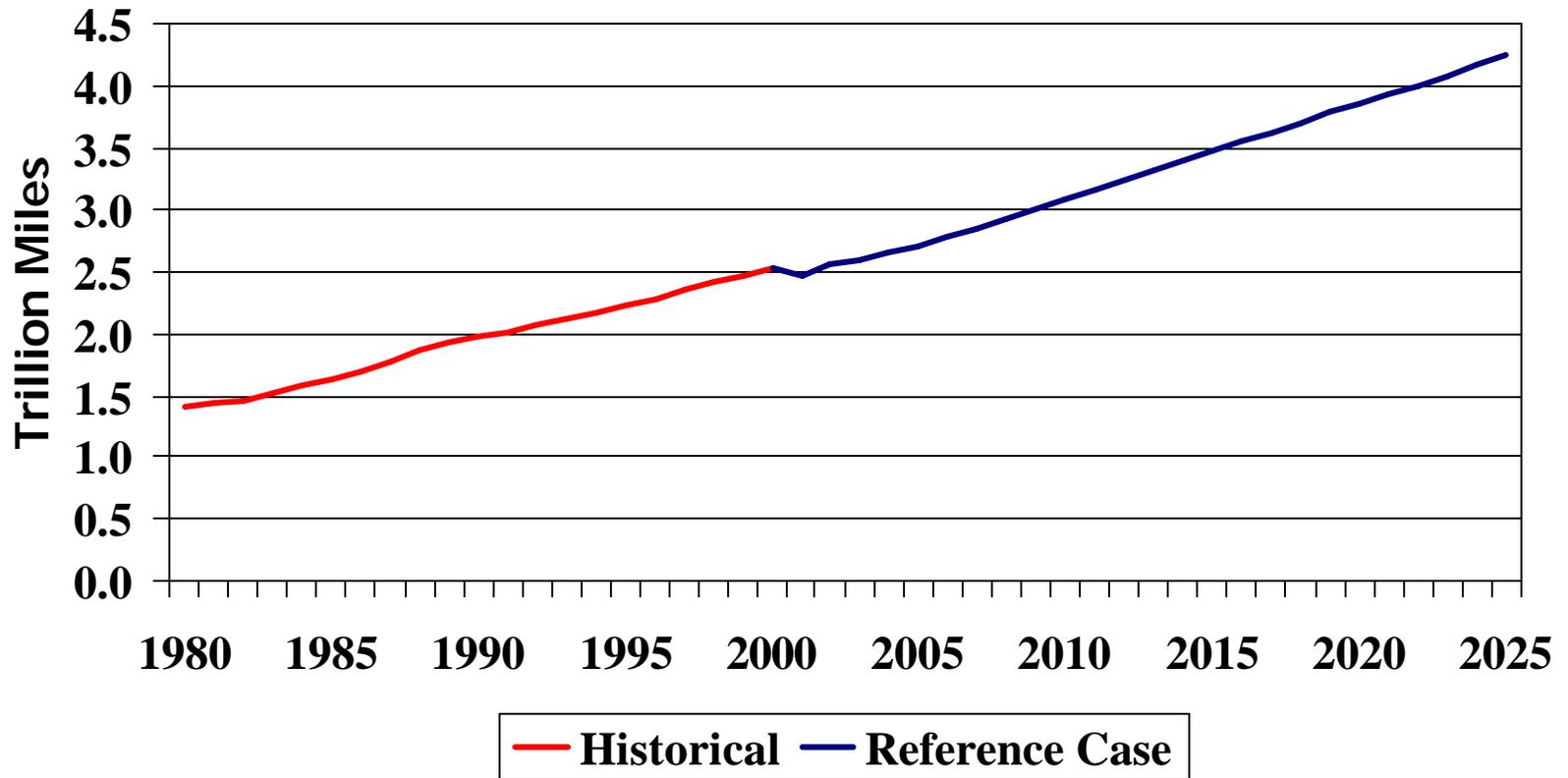
Stocks of Alternative Fuel and Advanced Technology Vehicles



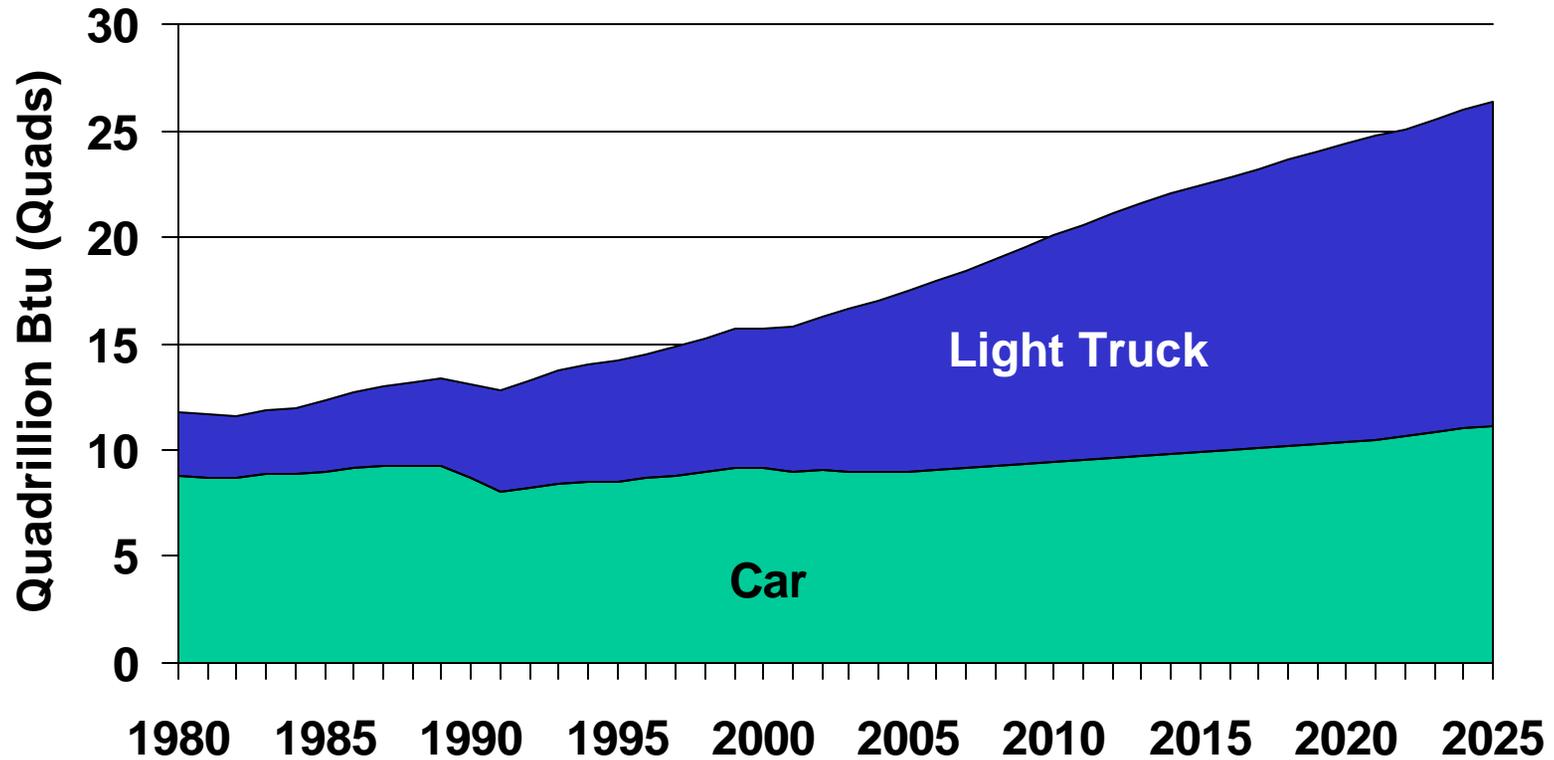
On-Road Light Vehicle Fuel Economy



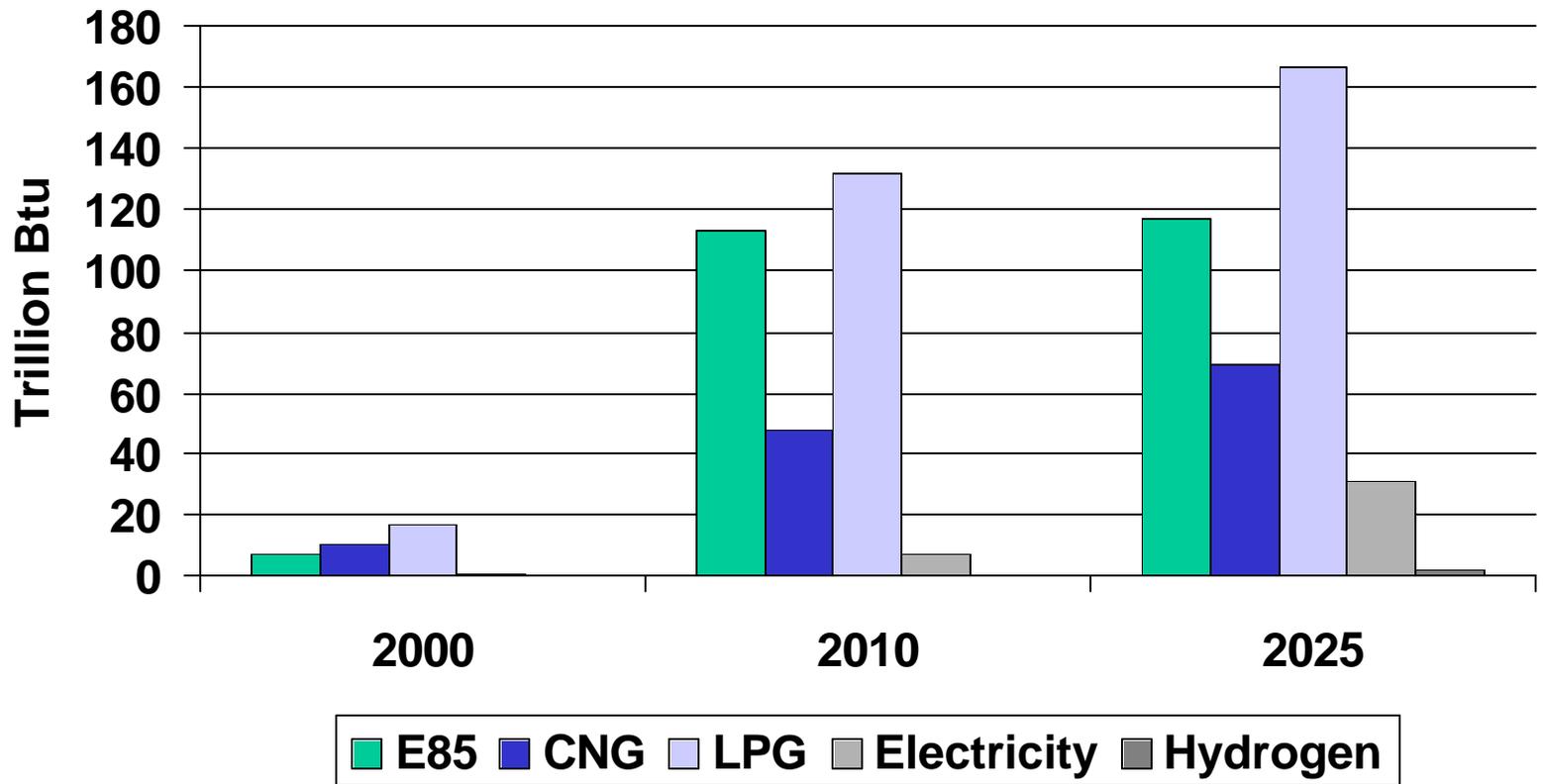
Total Light Vehicle Travel



Light Vehicle Energy Use



Light Vehicle Alternative Fuel Use





Uncertainties

- Environmental Regulations
- Fuel Economy Standards
- Mandated Sales of Alternative Fuel and Advanced Technology Vehicles
- Fuel Prices
- Alternative Fuels Infrastructure
- Technologies

Summary

- Consumer demand for horsepower drives technology adoption through 2015
- Mandates drive alternative fuel vehicle sales
- Light vehicle travel grows on average 2.3% annually over the projection period
- Light vehicle energy use increases at 2.1% annually through 2025