

in the U.S. in 2006-2007 is a pre-requisite for modern diesel engines. The future of diesel is by no means secure. The cost penalty to lower diesel emissions to the same level of gasoline emissions is proving to be much more costly than anticipated. At the same time, many of the fuel-saving technological advances common in today's diesels are often not yet introduced in gasoline engines (variable valve timing, turbo charging, and direct injection). Fiat estimates that a diesel engine would cost 1,000 euro more in production than a comparable gasoline engine, have the same CO₂ emissions, and only a 5-10% fuel efficiency advantage. A U.S. government plan to provide tax incentives for diesel could prove decisive, but the details remain to be determined. Currently, no diesel engines are manufactured in Canada.

Furthermore, another advantage of the gasoline engine is that it can burn alternative fuels, such as natural gas or hydrogen, with few modifications. This multi-fuel use has proved to be a boon for the electricity generation industry, where modern generating stations switch between natural gas or oil depending on the price of the month. A diesel engine cannot achieve the same feat, although several European countries, especially Sweden and Germany, are making bio-diesel, made from organic material widely available.

While the engine is the most expensive single part of a vehicle, the alternative powertrains considered would have a much greater impact on the structure of the industry. Foremost, hybrids are likely to keep increasing in popularity. Total hybrid sales in 2005 exceeded expectation at 205,749 in the U.S. alone—52% of this by the Toyota Prius, representing 1.2% of all new vehicle sales. This ranges from a share of hybrids in total sales of approximately 8% for Toyota, 4% for Honda, less than 1% for Ford, and negligible for all other manufacturers⁶¹. A survey of North American automotive executives by KPMG yielded a unanimous prediction that hybrids will increase market share in the coming years⁶². Currently, no hybrids are

⁶¹ GM has delivered 430 diesel-hybrid busses in the U.S. and Canada and expects to add 237 to that total in the remainder of 2006.

⁶² On the sample of worldwide automotive executives, 88% anticipated a rising market share for hybrids.