

# Looking at Hybrid-Electric Light Vehicles

<https://marketpublishers.com/r/LE5259859EBEN.html>

Date: February 2012

Pages: 70

Price: US\$ 300.00 (Single User License)

ID: LE5259859EBEN

## Abstracts

The growth of industrialization also saw the escalation of one of the most basic needs of humans – transportation. This need has been met successfully by the industries of the world in many shapes, sizes, colors and variants with style. However, as must every industrial revolution be gauged by its commercial success, communities have started realizing the importance of the environmental sustenance or compatibility that any commercial endeavor has to offer.

With regards to transportation this has been met with the Hybrid Vehicles. These vehicles have offered the hope that fuel consumption worldwide can be reduced by half and at the same time the vehicle will retain all the qualities like acceleration on high speeds and the thrill of quickness that today's drivers demand. The hybrids also answer the need for efficiency in the US market as of today. As also, the driving population today demands the benefits of fuel cost which are directly related to their disposable income wherein the hybrid vehicle provides a reasonable amount of answers.

At the heart of a hybrid vehicle is the internal combustion engine (ICE) whose biggest strength is its adaptability. While the primary HEVs were purpose-built hybrid designs for research purposes, recent vehicles have been based on standard ICE vehicle design, thereby allowing the cost of technology to be spread over a wider platform of vehicles and achieving critical mass for more economic variants.

The present market Gasoline/Electric Hybrids operate on two separate power plants - an internal combustion engine and an efficient electric drive motor. They do so without human effort and the charging for the batteries takes place on the available gasoline in the tank which means as far as you drive the next approximate equivalent distance is available in backup when the gasoline goes out.

Government regulations play a major role in the market for HEVs and have been influenced by concerns about air quality, fuel economy and greenhouse gas emissions. Demand for hybrid-electric light vehicles (HEVs) is expected to grow dramatically, 56.6% per year, from a small base in 2004 to 800,000 units in 2009. Demand will be driven by increased concerns regarding fuel prices. North America accounted for the largest share of global hybrid-electric vehicle demand, 51% in 2004, and is expected to be the pioneering region in the uptake of HEVs due in part to the low acceptance rates for light diesel vehicles in the United States.

Aruvian's's R'search now brings a report focusing on this niche industry itself – Looking at Hybrid-Electric Light Vehicles – which explores the early stages of hybrid development programs and the support by the industry and government to making the hybrid a commercial reality. The report explains the technological basis of a hybrid vehicle and the basic differentiation between Electric and Hybrid vehicles. The importance of the battery composition in hybrids and the three important hybrid categories as in the Series, Parallel and Mild Hybrid are explained in this report.

In understanding the penetration scope of hybrids, this report analyzes the price elastic nature of automotive technologies and countering efforts of the government and society to incentivize the usage of hybrids at the consumer level in order to make them opt for hybrids over traditional gasoline vehicles.

The global scenario of Hybrid development and supplier relationships are also explained in this report which then combines all these factors to present a product outlook for the hybrid vehicles and the forecast for these products as well as the growth forecast for the overall hybrid market.

The initiatives taken by some of the industry majors like Toyota, Mercedes, Hyundai, etc., in developing the hybrid program are also profiled in Aruvians' report.

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