



Energy Efficiency as a Crucial Concept in Automotive Industry

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ABSTRACT

Energy efficiency is rather crucial concept in terms of automotive industry which affect development and economy. Increasingly developing new energy efficient methods take significant part in automotive manufacturing, which aims not only to reduce emissions to environment, but also to decrease production costs maintaining the quality of the product, and safety of the passengers in their vehicles, leading to customer satisfaction. In terms of energy efficiency concept in automotive industry, preventing leakage from the parts, designing environment friendly vehicles, efficient HVAC measures and energy management systems are some of the basic key points. Additionally, environment friendly low heat recovery system organic rankine cycle (ORC) implementation is useful for vehicle energy efficiency.

Vehicle research and development and energy management systems for energy-efficient automotive technology is of great priority in terms of energy efficiency. Thus, R&D issues are being studied deeply for automotive energy efficiency, such as fuel economy, developing hybrid specific engine and electromechanical coupling devices, implementation of high pressure common rail diesel engine, direct injection in cylinder gasoline engine, homogeneous combustion and turbo charging in terms of internal combustion engine technology, development of six stalls and more mechanical transmission, dual clutch automatic transmission, automatic control of commercial mechanical transmission through simulation control, breakthrough low resistance parts, lightweight materials and laser welding molding technology. Also, utilizing composites in design of vehicle components and their mechanical properties are of great importance. Additionally, energy saving vehicles through new energy automotive industry promote electric transformation of automotive power system as technology upgrade. Consequently, energy efficiency policies have been assigned to reduce energy consumption.

Keywords: *Energy Efficiency, Automotive Industry, Energy-Efficient Vehicle Technology, Energy Saving Vehicles.*

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