

A Study on Energy Saving Vehicle

Diun-Huang Chen
Dep. Electric Computer Engineering
Wichita State University
1845 Fairmount, Wichita, Kansas, 67260
U. S. A.

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Abstract

The *Energy Saving Power Vehicle* is a high potential product we all want to take advantage of, and one that economic institutions are eager to have implemented as soon as possible. While the pressure to implement *Energy Saving Vehicle* is great, and its development and implementation are challenging, care needs to be taken to avoid the potential risks. Therefore, I have chosen to point out the most important part of *Energy Saving Vehicle* for people.

According to history, vehicle is very important tool in people's daily lives. The vehicle was developed to improve human life. Therefore, combining transportation history with business networking, the vehicle is a essential daily tool in this generation. We will examine closely several subjects such as today's generator technologies,

future battery technologies, *Energy Saving Vehicle* application, Japan's energy conservation development, and how to use those conservation systems to make it more useful in our live. Finally, I will point out my central theme and conclusion.

Introduction

The basic purpose of the *Energy Saving Vehicle* is to introduce and explore a number of engineering and economic matters involved in planning product engine, battery operating, and controlling vehicle's generation and transmission systems in design vehicle.

There are many ways to conserve power and obtain efficient electricity in the vehicle. Before we get into those topics, we need to know more and understand how battery powers

efficiently to the vehicle. First of all, we must realize that electric power is need to start vehicle which usually comes from rechargeable battery. After we start the vehicle, engine will produce more energy power from vehicle generator. Then transferring those energy powers become electric power and reserving it back to the battery. When the vehicle is running, it doesn't need too much electric power. All it needs is to burn the gasoline to produce physic power on wheels.

Many vehicle developments have taken place in the area covered by those technologies and new techniques have developed that have been applied to solve old problems. Electric power has increased dramatically, permitting the solving of problems that were left previously left as being too expensive to tackle. Perhaps the most important development is the change that is taking place in electrical power industry with new, non-utility participants' playing a larger role in the operating decisions.

The vehicle is widely used in many aspects of our lives. The technologies behind the engineering skill are also changing quickly. This report outlines the design of many ways and

implementation of my research paper, The research on *Energy Saving Vehicle* has been on the technologies experience to research the topic based on current engine and battery technologies.

In this generation, to conserve energy is one of the most concerned topics for most people. Most people care about the increase of price on gasoline. Some people's mood swings are even based on the increase and decrease of the gasoline prices. But, how many people know how to saving the energy, and how gasoline transfers that energy? We need the basic concept of saving power energy in order to protect our environment. There are many theories to saving power in our environment. There are many theories to saving power in our vehicles.

Energy Efficiency

In my paper, I will like to discussion the economic potential of energy efficiency for systemic perspective first. Then I will mention discussion to improve currently vehicle. Energy saving can be realized by looking at energy-using systems in a

broader sense. Aspects of this point of views include:

- Optimizing the transport and distribution of energy.
Commercial energy use is often highly decentralized, yet the energy is produced in central plants; examples include electricity and district heating networks.
- Optimizing according the second law of thermodynamics [5] by supplying the suitable form of energy, including heat at the needed temperature and pressure, or by exploiting opportunities for energy cascading.

These concepts are not new, but many people are often neglected in the planning of cities and suburbs, industrial sites and areas, airports, power plants, and green houses.

Accumulator Battery

There is energy saving and high-efficiency electric vehicle which uses a set of accumulator batteries as a power source and is driven by multiple motors of different powers, each motor having its own circuit system and switching

device. When greater resistance is encountered by the vehicle, such as when it starts or is going uphill, the large and small power motors are actuated simultaneously to provide a resultant force. After starting, when inertial force increases and resistance relatively decreases, the small power motor alone can be actuated, but the maximum RPM it can impart to the driving shaft should be higher than that imparted by the large power motor. In this way it is possible to save energy, thereby lengthening the time and distance of continuous travels of the vehicle. At the same time, the vehicle is of lower cost, is convenient to drive, and does not pollute the environment.

Recently, increasing power importance has been placed on energy saving in various systems. This has created a need for a motor with high efficiency that is capable of operation over a wide range of speeds. People want to develop a novel permanent magnet reluctance motor (PRM) that has permanent magnets [1] embedded in the isotropic rotor to increase the power density and the power factor. The PRM produces reluctance torque and torque by permanent magnet (PM) flux. The

reluctance torque is 1 to 1.5 times larger than the PM torque. [2] It is clarified that the PRM operates at a wide variable-speed range (1:5) and at high efficiency (92-97%). [3] With an output power of 8 to 250 kW [1], the motor is suitable for application to electric vehicles, railway systems or elevator systems.

Hybrid Electric Vehicle

In Japan, many people are interesting to research electric vehicle. It saves a lot of energy by using solar energy, thus it won't pollute the environment.[4] The electric power produced by the solar energy is low cost and highly efficient. Electric-drive vehicles, whether based on batteries, engine-electric hybrid, or fuel cells, can make major contributions to the electric utility supply system. Computer-controlled power connections from parked Electric-drive vehicles would provide grid power from on-board storage or generators. In the United States, battery Electric-drive vehicles can be cost-effective as a source of peak power. [4] This option is even better matched to urban Japan, where vehicles are typically parked throughout peak

electrical demand periods. If utilities take advantage of this opportunity to research peak power from vehicles, it would make the electric grid more efficient, enlarge the market for Electric-drive vehicles lower urban air pollution, and facilitate future introduction of renewable energy.

Hybrid electric vehicles offer great promise in improving fuel economy. In fact, we are interesting to analyze why, how, and by how much vehicle hybridization can reduce energy consumption and improve fuel economy. We wish to analysis efficiency gains associated solely with vehicle hybridization. We do not consider such other measures as vehicle weight reduction or air- and tire-resistance reduction, because such measures would also benefit conventional vehicles. The analysis starts with understanding the energy inefficiencies of light-duty vehicles associated with different operation modes in US and Japanese urban and highway driving cycles, with the corresponding energy-saving potentials.[5] The potential for fuel economy gains due to vehicle hybridization can be estimated almost exclusively on the basis of three

elements: the reducibility of engine idling operation, the recoverability of braking energy losses,[4] and the capability of improving engine load profiles to gain efficiency associated with specific Hybrid electric vehicles configurations and control strategies.[6]

Conclusion

Finally, I will like to conclude my topic in this paragraph. Most of people should react to the new world economy quickly and offer what their clients are looking for. I think, there is a great future for s and it is *Energy Saving Vehicle* aggressive in terms of requirements, demands and support. It is great for economic eagle, but people must be cautious in implementation and execution in order to deliver a reliable service. So far, many variables of electric vehicle or Energy Saving Vehicle are not under control. Many parts of developments are not mutual today.

As I know, driving security coverage is a big hindrance. Legacy systems with different topologies and different platforms make things more difficult. There will be more streamline markets

demanding new ways of conducting transactions. The future of electric vehicle and trading has promising magnitudes of growth. In this several weeks, I was reading some resource, I will expects that many millions more people in the US will become saving power vehicle subscribers in coming years, increasing the total number to more one hundred million. In addition, the percentage of subscribers with Internet-ready *Energy Saving Vehicle* will quadruple during this year. Despite millions of new users, the power saving vehicle market can expect some real challenges in the near future. *Energy Saving Vehicle* is sensitive to security and it is essential to find the right balance between speed and encryption. In deed, consistent availability and reliability of the services are key to a successful implementation and the survival of the financial institution. In my idea, geographical coverage is imperative to successful implementation because big quantity production can low cost and research cost. It must be clearly defined and understood. The confirmation of transportations is key to show the level of commitment and accuracy to customers. *Energy Saving*

Vehicle is greatly dependent on the efficiency of the urban or country side. The more efficient the area, the faster the content is on the way to driving this kind of car. People's requirements are driving a demand for faster transportation, safety and higher speed capacity. In order to offer an enterprise an Energy Saving Vehicle solution, major industry consortiums must break all political barriers and agree to a global format of transportations. The consortiums must arrive at a solution that can access all escorts across all product market, regardless of device type. The transportation agent's institutions would like to extend their research to the Energy Saving Vehicle, but they lack the resources and the expertise to implement and deliver to their customers in a timely manner.

As the long-term potential for energy efficiency reduces useful energy demand and the proceeding levels of energy conversion, future energy policy of most countries and on the international level will have to focus its scope from energy supply to energy services. This kind of method should apply to our really life. Accumulator battery, Hybrid Electric Vehicle and

Economic potential energy efficiency are my discussion.

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