How A Hybrid Vehicle Saves Energy

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Transportation Pollution and the Environmental Need for Hybrid Vehicles

The vehicles we use in our daily lives all over the world are damaging to our environment. Air quality in the US does not meet federal requirements due to air pollutants. Air and water pollution, global warming, and ozone layer depletion are the challenges the earth faces, reflecting the consequences of our actions. The cars we use emit harmful exhaust gas that causes acid rain and significantly contributes to global warming. Due to ever-growing environmental concerns, the US government has been trying to address these concerns. One such measure is the use of hybrid cars that utilize less energy while emitting smaller exhaust gas. However, the hybrid car comes with a bunch of disadvantages, too. Many manufacturers are trying to improve hybrid vehicles since failure to quit gasoline-powered vehicles means that the resources on earth will continue to get destroyed.

The origin of the hybrid vehicles concept dates back to 1905 when an American Engineer filed a patent on a car that would utilize an electric motor to improve the power of the ordinary gasoline engine. His idea would fade as the gasoline engines became more improved, primarily because the equipment to start the car with a crank was invented. However, the 1970 oil crisis reignited renewed interest in electric vehicles and hybrid vehicles that would see the US and domestic vehicle manufacturers rely on less foreign oil since the two vehicle categories would consume less of it (Barnes and Nat. 54). That has become a reality as the hybrid vehicles have become more and more popular today as the manufacturers respond to the existing environmental challenges. Hybrid electrical cars join the internal combustion engine of the gas release with both the battery and motor of the electric vehicle. This results in doubling the fuel economy of gasoline-powered cars. The combination offers the extended range and fast fueling that consumers get from conventional vehicles with high energy and environmental advantages of the electric vehicle.

A hybrid car system saves energy because it is manufactured in a manner that compensates for the short battery life that comes with electric cars. While some batteries only provide enough energy to serve during short trips, a generator can be carried onboard, and through the use of power from the internal combustion engine, it can be installed for use during longer trips. On the contrary, the previous battery-electric powered vehicles, which were provided via wall-plug electricity, were perceived as the ultimate efficient and low-emission vehicles, although better batteries have been invented. A conclusion had arrived that hybrid vehicles were not relevant with better batteries.

Fuel Savings, Oil Dependence, and National Energy Efficiency

According to the United States Department of Energy, replacing 22% of all the vehicles in the US with hybrids, the barrels of oils that could be saved daily are about one million. This would be vital at a time when oil production has dropped by 17% as while the consumption has risen by 14%.additionaly, fewer pollutants would be produced as compared to the conventional vehicles. To be specific, the Department of Energy estimates that for every 12,000 miles covered annually, carbon emissions will drop by 4,700 pounds from gasoline-powered vehicles (Grzegorz et al. 164). The last two decades have seen hybrid vehicles leading to all vehicles, owing to their efficiency and the poor air quality that has compelled those in authority to require cars that are cleaner. This has seen the consumption of gasoline decrease, leading to a reduction in the national average smog quantity because of the lesser usage of smog-forming pollutants that exist in gasoline. Despite the fact that hybrid vehicles will never register zero emissions, their internal combustion engine will help slash the emissions that contribute to global warming pollutants by close to half, with better future prospects that will come with newer models (Barnes and Nat. 54).

Another way in which hybrid vehicles save energy compared to conventional vehicles that use gasoline is by regenerative braking potential, which reduces energy loss and replenishes the energy that is used to stop the vehicle. After breaks are applied, the motor starts to work like a generator, using the vehicle's kinetic energy to produce electricity (Chiswell and Mike 87). The generated power can as well be stored in a battery to be used later. This, therefore, shows how time and energy are saved since the need to recharge the battery using an outside source is eliminated. Hybrid vehicles indeed save energy because, despite having two power sources, they run on only one source of power when needed. At red lights, the gas engine can comfortably be turned off, and no other time. Their low-resistant tyres provide hybrid vehicles with stiff and more inflated tyres, resulting in less dragging when compared to traditional cars. Moreover, on top of their lesser energy requirements, they are found at a very competitive price. The energy levels they consume are enough to allow them to hold an average load.

Alternative Fuels, High Mileage, and the Design of Cleaner Cars

An average hybrid vehicle can cover 100 miles using one gallon, and the dependency on fossil fuels is eradicated since they can use other alternative fuels. Further, they are manufactured using lighter materials. These materials include magnesium, aluminium or fires of carbon. The materials ensure that the overall weight of the vehicle is greatly reduced. A vehicle that is lightweight requires less energy to start. The cost of premiums associated with hybrid vehicles can be countered with the amount of fuel cost saved (Grzegorz et al. 164). As manufacturers of hybrid cars plan to save energy

by replacing the gasoline they consume with E85, which is an ethanol-gasoline fuel, they will require refuelling more often. E85 has a high energy content and burns cleaner oxygen, hence reducing smog formation and illnesses in the respiratory system. When compared to gasoline, E85 will minimize greenhouse gases and carbon dioxide as well as 39&% to 46% (Graham-Rowe and Duncan 22). Other advantageous properties of E85 include being non-toxic, biodegradable and water-soluble.

Although the consumption of E85 is higher than that of gasoline, it can also be used to combat the effects of gasoline. Its usage would positively impact the US economy while transforming it into an energy-reliant nation. The ethanol in the E85 can be produced from home-grown crops, which creates more jobs and stabilizes prices. That way, the US will have reduced energy demands as well as reduced reliance on other countries without entirely forfeiting energy consumption. Motorists' vehicle engines will last longer due to the combustion of cleaner fuel. Vehicles that consume either gasoline or E85 are the improved hybrids.

In conclusion, hybrid cars are a better choice than conventional gasoline-powered vehicles. However, they also come with their set of challenges. Presently, they remain the best solution in fighting the overwhelming effects of global warming exhaust related effects. If the emissions are successfully lowered in addition to the lesser fuel consumption, then hybrid vehicles will be the ultimate way to travel. On the other hand, their lightweight makes them vulnerable to traffic-related fatalities in addition to their lesser emission. Furthermore, their parts remain relatively expensive and not readily available, but this is bound to change as manufacturers are continually improving hybrids year after year.

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