

Are electric cars the
future of
transportation?



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To boost the research and purchases of electric cars to reduce future pollution of the environment, manufacturers and consumers would benefit from subsidies and incentives from the government. This could provide a more economical and environmental friendly means of transportation in the future that would help in protecting the environment. There is the debate on the research and development of a more efficient electric car would produce more pollution by means of manufacturing. The long term gain in managing to produce an electric car that does short distance travel as well as long distance could mean less pollution as the technology advances to make one that is more efficient than today's version of electric cars.

As children from the 1960s to the 1980s, we watched *The Jetson's* with the idea that one day the future would be very much like life living there. Flying cars, robot maids, instant full meals, and also traveling around with jet packs. Life seemingly made much easier with the use of technology. So far today, transportation has progressed in technology from horse drawn carriages to gasoline powered cars and now on to the way of electric cars. There has been an effort in trying to lower the effects of pollution from the technology of standard cars in the last few years. Cars have been manufactured for years, however, in the early years there was not a cause for concern with the environment. The main reason being the amount of cars on the road were not as many due to that many people could not afford one since it was considered a luxury.

Over the years, cars became more affordable. Families were able to afford more than one car and soon became multi car families. With the addition of more cars being manufactured and running on the road, the emissions being

produced have increased creating pollution that is causing many issues. With the current technology, manufacturers are attempting to find ways to make electric cars that are more affordable, reliable, and efficient. Once electric cars are more readily affordable, became able to travel long distances, and the installation of charging stations, the emissions would decrease and the environment would be improved from the lack of pollution.

There are a few advantages to electric cars. The first is dependency on fossil fuels by standard cars would be gone, which would reduce the costs of fuels if one purchased a hybrid of an electric and fuel cross type of car. If one purchased a fully electric car, then the fuel costs would be completely cut and thus saving money by having no fuel expenses. This would mean either a substantial decrease or complete cut in fuel costs with either type of car given the current rising costs in fuels. The other advantage over changing from a standard car to an electric one is that if there was a complete switch to an all-electric or a plug-in extended car, the nation would save 15 billion gallons of gasoline each year. (Pasadena Star-News, 2013). Thus reducing the costs for gasoline for both the nation as well as consumers.

Maintenance is another issue with both standard and electric cars. There is a cost difference between the two. The advantage with electric cars are that a lot of mechanics observe that even though electric car engines still have moving parts, the maintenance is way easier, faster and cheaper (PR Newswire US, 2014). With an electric car, the rides should be quieter and smoother than a standard one.

There's a \$7,500 federal tax credit for buyers of plug-in electric vehicles, and there are incentives for building charging stations and battery plants. (Fort Worth Star-Telegram, 2013) With federal and state tax credits, some models of electric cars are arguably competitive with standard mid-line economy cars. The cost of a Nissan Leaf, is listed for \$30,000 to \$31,000 at the Boulder Nissan dealership, will drop to \$17,500 to \$18,500 after federal and state credits. (The Denver Post, 2013) Tax credits, subsidies, fuel, maintenance, no emissions, and reliability are just to name a few more of the advantages to owning an electric car. The idea that being able to cut costs towards fuel purchases and maintenance is appealing when faced with the rising costs of both as well as the credits to lower the initial purchase cost.

Battery, plug-in hybrids, hybrids, and hydrogen fuel-cell cars are the four types of electric cars currently in development. Battery electric cars have electric motors and battery packs with no other means of propulsion. The distances is usually about 100 miles. Plug-in hybrids act like an electric car from the first 15 to 50 miles, then can be switched over to a onboard internal-combustion engine that acts as a generator. Hybrids either use an electric motor as assists for the gas engine, or allow short bursts of electric-only driving. The hydrogen fuel-cell cars has a fuel cell that produces electricity from hydrogen which replaces the battery pack (Motavalli, 2012). While these are the current standards with these types of electric cars, the improvement in technology will change those over time.

Environmental advantages with the electric car versus a standard one is that an electric car does not emit any emissions. A standard car emits pollutants from by the way they are powered. The way a standard car works is by

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combusting fuel, which in turn creates carbon dioxide that cannot be minimized through the use of emissions-control devices (Kliesch, 2011). A full electric car does not require any fuel, which in turn would not emit any emissions to create pollution.

While there are many advantages to owning an electric car, there are disadvantages as well. One is the currently the way electricity is used to charge one is produced. Depending on the source of electricity generated will determine the amount of pollution. There are several different sources used in how electricity is generated. There are renewable sources, such as solar, wind and hydropower. Then there is the natural gas, coal-fired and nuclear plants. While the renewable sources would mean for the electric car to be manufactured by no pollution effects to the environment. The next in line for least amount of pollution is the natural gas plants, while coal-fired is the worst to emit high levels of carbon dioxide as well as particulate matter. Nuclear plants, while not a threat from global warming or smog-forming pollution standpoint, pose the dangerous threats of nuclear disasters and nuclear proliferation (Kliesch, 2011). Renewable sources are still being incorporated into the current technology and life styles.

While there is quite a few different types of pollution, a car produces 3 different types. The types produced from cars are categorized as - in-use, upstream and vehicle-manufacturing emissions. The definition of in-use is when a person is actually driving the car. While upstream emissions result from the production and transportation the fuel a car uses to where it is used. The third manufacturing-related emissions, accounts for about 10 to 20 percent of a vehicle's lifetime greenhouse output (Kliesch, 2011). To be fair,

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that is only a portion of what contributes to pollution on a large scale. Those are what accounts for a standard car's emissions. The electric car produces no in-use emissions, but they do have upstream emissions from where the electricity is produced in order to charge the battery.

If one looks at the amount of pollution emitted by a standard car versus an electric one, it can be seen as to how much of a difference there is. A difference that is also affected by the location the car is driven in. If one lived in California and had an electric car, driving 12, 000 miles in a year would emit about 1. 6 tons of carbon dioxide. However, by contrast a hybrid would emit about 2. 9 tons and a 25 mile per hour car would emit about 5. 9 tons (Kliesch, 2011). Being that California has the most advantage with the cleaner of electricity produced, it would be a huge impact on reducing pollution by changing from a standard car to an electric one.

The reason the government should be offering incentives and subsidies to the consumer as well as manufacturers are to help in reducing the dependency upon petroleum-based fuels. By investing into cleaner energies and cleaner cars, the impact of pollution caused by those would help the environment over a period of time. As the population that inhabits the Earth, this is the only planet able to sustain human life and needs to be protected for future generations to live here. In time there will be too much pollution that will cause many more health issues and possibly make the Earth unlivable in the future.

With purchasing an electric car, one would have an immediate change in fuel costs. It would depend on the type of car purchased. If it were an all-electric

car, then fuel costs would be eliminated. With a hybrid type, the amount of fuel purchases would possibly be cut up to half or perhaps more. To put it to numbers, drivers may ultimately compare fuel efficiency by how much it would cost to purchase fuel versus cost to charge with electricity. If gas costs \$3 per gallon and typical mileage is 25 miles per gallon, it will take 4 gallons of gas to go 100 miles, at a total cost of \$12. The per-mile cost is one hundredth of that, or 12 cents per mile. For the Prius, at 50 miles per gallon, fueling costs are half that: 6 cents per miles (PR, N, 2014). This is a considerable difference in cost per mile for standard car versus an electric car.

As long as technology improves in different areas, then the advantages will outweigh the disadvantages on owning an electric car. The current means of manufacturing and ways to recharge an electric car to be improved to reduce the level of pollution side effects on the environment as well as lower the costs to purchase an electric car. The improvements with an electric car being able to travel further distances by improving the battery capacity and then implementing of charging stations much like gas stations. While those improvements are being made with electric cars, the technology for current production of electricity will be improved upon as well. This will reduce the pollution created from not only standard cars, but as well as the general usage by homes and businesses. This will bring forth protecting the population to being able to live in a healthier, better breathing environment much like in the days prior to the invention of cars.

With the ground work in place for evolving the future of transportation to improve the environment, it is also going to be making an impact on the <https://assignbuster.com/are-electric-cars-the-future-of-transportation/>

future of how electricity is made. While technology will change to improve the electric car, it will also change how electricity is produced. This will reduce the impact to the environment with the emissions produced from some forms of electricity production and standard cars. The placement of incentives and subsidies will enable consumers and manufacturers to purchase and develop a cheaper, environmental friendly electric car. The research into making an electric car travel further distances will also boost research into changing how electricity is used to recharge the battery. In time there will be charging stations very similar to today's gas stations, allowing people to travel further instead of staying within a certain distance. The quiet and smooth ride of an electric car could change the comfort level versus the standard. With the rising costs of fuel and maintenance for a standard car would decrease if each home were able to afford the initial purchase of an electric car. In time, electric cars will be manufactured for less and be similar in purchase cost a standard car, or perhaps even less. The future of the environment seems dependent on putting more effort into the research and manufacturing of a more economical and efficient electric car.

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