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Are Electric Cars the Future?

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Are Electric Cars the Future?

By: Nick Gable

Abstract: my paper is about switching to electric cars for transportation. The end of fossil fuels is soon, and we must preserve them. We must cut down on fossil fuel use to save the environment from pollution. I use statistics on emissions and pollution from conventional cars and explain why we need to switch to electric cars sooner rather than later. I argue that there should be stipulations by the government regarding electric cars and conventional cars on the lot. I also say that we should start producing lots of electric cars as soon as possible.

Keywords: Electric cars, fossil fuels, emissions, environment

I am scared for our future as Americans. I believe you should be as well. We rely on fossil fuels for a lot of things in our life. Things such as electricity, heating, and most importantly transportation. What are we going to do when fossil fuels are no longer available? You probably don't have an answer for this question. The end of fossil fuels is a wicked problem. In chapter two we watched a YouTube video titled, "*What is a wicked problem?*" In this video the man was asked this question and his answer was this, "*A wicked problem is a problem that doesn't have any structure it's a problem with no known solutions*". We don't know what to do when fossil fuels run out. Running out of fossil fuels is a wicked problem with no known solution. I want to be a car salesman and one day own my own dealership. This issue affects me directly. I would need to know what types of cars I will be marketing. This jogs my mind and has me wondering, what does the future hold from a car salesman's perspective?

So, are electric cars the future? I do believe so. Here are the facts, according to a website titled "*Sciencing*". Oil supplies ninety-nine percent of the energy for cars in the form of gasoline and diesel. I took this information and went to another website called "*Ecotricity*." This website claims that oil deposits will be depleted in roughly fifty years. If we continue as we are now, natural gas will run out in roughly fifty years as well. What we do know is electric cars will cut down on pollution put into the atmosphere. Coal and gas are the traditional ways of making electricity. More innovative and economically friendly technology is replacing that. Nuclear fission is one example. This is where atoms split into smaller pieces giving off energy. Two examples that are very friendly to the environment are hydropower and wind energy. Hydropower is made by running water through a turbine to create electricity. Wind energy is created by wind turbines. The wind blows the blades of the turbine which spins the generator. So, what are the benefits of having an electric vehicle? They are fun and practical. You won't ever have to stop at a gas station again. They are very responsive and have a lot of torque making them enjoyable to drive. The real benefit is that they are saving the environment by not emitting anything into the atmosphere. Electric vehicles can also save you money by not having to fill up with gas. The battery on an electric car will get you about two hundred to three hundred miles depending on how you drive. Just charge your car frequently and there will be nothing to worry about. Fueling with electricity is much cheaper than gasoline. It is said that a dead battery only charges about thirteen dollars to fill up. Fueling with electricity doesn't only provide personal benefits. It benefits the economy as well. The United States uses about 9 million barrels of petroleum annually. Two-thirds of that petroleum goes towards transportation. Electric vehicles help the United States have a greater diversity of fuel choices available for transportation, according to "*energy.gov*". Electric vehicles help cut back the amount of petroleum used for

transportation and reduce emissions that contribute to climate change and smog. This improves the health of the people and shortens the ecological damage caused by harmful emissions.

I am going to dive deeper into the emissions statistics. There are two categories of vehicle emissions, direct emissions and life cycle emissions. According to “*energy.gov*”, this is what direct emissions are, “*Direct emissions are emitted through the tailpipe, through evaporation from the fuel system, and during the fueling process. Direct emissions include smog-forming pollutants (such as nitrogen oxides), other pollutants harmful to human health, and greenhouse gases (GHGs), primarily carbon dioxide. All-electric vehicles produce zero direct emissions, which specifically helps improve air quality in urban areas. Conventional vehicles produce direct emissions. Plug In hybrid cars produce less direct emissions than conventional vehicles. Electric vehicles produce zero emissions. However, life cycle emissions are more advanced. “Energy.gov” definition of life cycle emissions is this, “Life cycle emissions include all emissions related to fuel and vehicle production, processing, distribution, use, and recycling/disposal. For example, for a conventional gasoline vehicle, emissions are produced when petroleum is extracted from the ground, refined to gasoline, distributed to stations, and burned in vehicles. Like direct emissions, life cycle emissions include a variety of harmful pollutants and GHGs.*” This really shows the pollution made just to acquire fossil fuels. Electric vehicles produce less life cycle emissions than traditional cars. Electricity emissions are lower because creating electricity requires burning less gasoline or diesel.

Another reason that electric vehicles are our future is because they are more energy efficient than internal combustion engine cars. There are a lot of factors that go into the electric car's efficiency. According to a website named “*ScienceDirect*”. This is how the electric cars are more efficient. “*One-third of all energy used in transportation goes to overcome friction. New*

materials, lubricants, and design changes that could reduce energy losses by 18–40%, mainly resulting from friction and wear. The savings would be up to 8.7% of the total global energy use and 1.4% of the gross national products (GNP). The benefit of electric cars where the total energy use is in average 3.4 times lower compared to combustion engine powered cars. The CO2 emissions are 4.5 times higher for a combustion engine car compared to an electric car when the electricity comes from renewable energy sources. Moving from fossil to renewable energy sources may cut down the energy losses due to friction in energy production by more than 60%.”

If this doesn't convince you that electric cars are the future than I don't know what will!

It's scary to think that someday fossil fuels could be completely depleted. We need to begin to plan for this possibility and use innovative technology to transition to other forms of energy. It is a little less scary to know that electric cars are going to be our future. Even though this is a wicked problem I have ideas for a solution. We should produce as many electric cars as possible starting as soon as possible. Every manufacturer should have at least one electric car model. Some manufactures have electric cars already. Jaguar, Tesla, and Audi all have electric cars for the 2021 model year. These are all fairly expensive for the average American. There are some alternatives, Chevy, Nissan, Ford have more entry level electric cars for the 2021 model year. Another solution that I thought of is there should be a stipulation put into place by the government of how many electric cars are on a lot. Dealerships should try to make it more even with conventional cars and electric cars on the lot. Then they are not only selling conventional cars. I think there could be incentives thrown into play by the government. You get some form of subsidy when you purchase an electric car. Because they can see you are trying to contribute to saving the environment. making the electric car more affordable and providing a subsidy would allow a wider range of the population to be able to afford an electric car.

Our future lies in the balance. Reducing production of conventional cars will lead to more production of electric cars. More production of electric cars will lead to a healthier environment. Time is running down with fossil fuels. We should act now before the fossil fuels are depleted.

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