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Is Electric Vehicles the Perfect Solution for Increasing Pollution and Its Hazardous Effect on Ecosystem?

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ABSTRACT:

In recent days there is an increasing demand of Electric vehicles with rising concern on climate change. According to WHO every year 4.2 million people die due to outdoor air pollution,WHO data shows that almost all of the world's population (99%) breathe air that exceeds limits WHO guidelines containing high levels of pollutants. Due to which governments and other organizations are working together to control the situation. As a result, new policies and subsidies are being introduced to encourage people to use Electric Vehicles. So, this study is all about finding the truth on electric vehicles to find whether they actually do any good to the environment what are the drawbacks and how it can be improved in the future.

Keywords: greenhouse emission, climate change, electric vehicles.

INTRODUCTION:

Scientists today refer to climate change as "the greatest threat to global health of the 21st century". It is a threat that affects us all, especially children, the elderly, low-income communities, and minorities, and in a variety of direct and indirect ways. As temperatures rise, the incidence of illness, emergency room visits, and deaths also increase.

These impacts will affect the basic needs of life for food, water, shelter, health for billions of people, and, often, it will be the poorest people living in the poorest countries who will be the most affected. This raises deep ethical and justice questions, as these people have generally contributed the least to the causes of global climate change (the emission of greenhouse gases), and their lack of resources means they are least able to afford it to fight against the impacts of climate changeFew years back the idea of Electric Vehicles ruling the roads seemed like a distant fantasy. However, in recent years Electric Vehicles have gained huge popularity because of which we can expect majority of the vehicles to be EV's in the coming 20-30 years because, humans are increasingly influencing the climate and the earth's temperature by burning fossil fuels, cutting down forests and farming livestock. As a result, there is extensive emission of Green House Gases. And one of the major sources of GHGemissions is the transportation of vehicles from one place to another.

Many scientists and researchers have conducted research on Electric Vehicles and their advantages and disadvantages. Also, there are some researches done on how EV's are growing and effecting particular regions. But there is no significant amount of research work done to find out to whether EV's will really reduce the impact of climate change in the future and if not then what all more things are required to be done.

METHODOLOGY:

The information and facts presented in this study are drawn from various reports prepared by national and international agencies on climatic change. Details are collected from various genuine websites. Some magazines and electronic content related to the impact of air pollution from various sources and its noxious effects. Data were also collected through a survey of people of different age groups. The survey had 9 multiple-choice questions and 1 question measured on a 5-point linear scale. The objective was to conduct the survey among 250 people aged 15 to 50 and over. Get to know their perspective on climate change and the importance of electric vehicles Participants had 5 minutes to complete the survey anonymously and 220 people responded. Since not all surveys were fully completed, 217 survey results were included in the analysis.

I. Climate Change

Climate and Weather are sometimes considered as the same thing but both are different. Weather is what you see outside on any particular day. So, for example, it may be 75° degrees and sunny or it could be 20° degrees with heavy snow. That's the weather. Weather changes from day to day. Whereas, climate is the average weather in a given area over a longer period of time. The climate of region depends on the factors like seasonal temperature, average rainfall and wind patterns. Every region has a different climate. For example: A desert has an arid climate because of less water fall as rain or snow. Climate is measured over a long period of time. So, when there are changes in the average weather conditions like temperature, rainfall, snowfall for a long period of time it is called as climate change.

II. *Reasons for climate change*

Climate change is frequently is brought about due to natural events and "anthropogenic" (human-induced) elements. The herbal elements encompass activities like volcanic eruptions, ocean currents, the Earth's orbital adjustments, sun versions and inner variability. The ability of human sports to elevate the Earth's temperature via greenhouse fueloline emissions has been defined and calculated for over a century. Volumes of medical studies throughout a couple of medical disciplines agree that human beings are warming the weather, and the 2013 IPCC Fourth Assessment Report states that "Human have an effect on at the weather gadget is clear. This is obvious from the growing greenhouse fueloline concentrations withinside the surroundings, fine radiative forcing, located warming, and expertise of the weather gadget". There is overwhelming proof that human sports, specifically the burning of fossil fuels, result in extended ranges of carbon dioxide and different greenhouse gases withinside the surroundings, which in flip amplifies the impact of herbal greenhouse, inflicting the temperature of the earth's surroundings. The ocean and the land floor to growth. The reality that greenhouse gases "trap" infrared warmth is properly mounted via laboratory experiments courting again to 1856, while Eunice Foote first measured its impact. The properly-documented growing fashion of CO2 withinside the surroundings is resulting from the burning of fossil fuels and large adjustments in land cover. The "smoking gun" is supplied which actually suggests that human sports are accountable for the latest will increase in carbon dioxide withinside the surroundings from carbon isotopes (carbon atoms of various atomic weights). These isotopes permit scientists to "imprint" the supply of the carbon dioxide molecules, revealing that the growth in CO2 withinside the surroundings is resulting from the burning of fossil fuels. According to the National Climate Assessment, human affects are the primary reason of world warming, specifically the carbon pollutants we reason through burning fossil fuels and the pollutants-shooting we save you through destroying forests.

Carbon dioxide, methane, soot, and the unique pollutants we release into the environment act like a blanket, trapping hot temperatures from the sun and causing global warming. at least over 1,300 years. This warming alters the Earth's weather system, as well as its land, atmosphere, oceans and ice, dramatically.

III. *Greenhouse Emission by sector*

The world emits approximately 50 billion tonnes of greenhouse gases each year [measured in carbon dioxide equivalents (CO2eq)]. To determine how we are going to minimize emissions and what emissions can and cannot be eliminated with modern technologies, we first want to understand where our emissions are coming from. The figure shows the distribution of global greenhouse gas emissions in 2016. This is the latest distribution of global emissions by sector, published by Climate Watch and the World Resources Institute. This breakdown shows that certain sectors and techniques contribute to global emissions. In this approach, there may not be one simple or lonely technique for dealing with climate change.Focusing more effectively on electricity, transportation, meals or deforestation is not always enough.

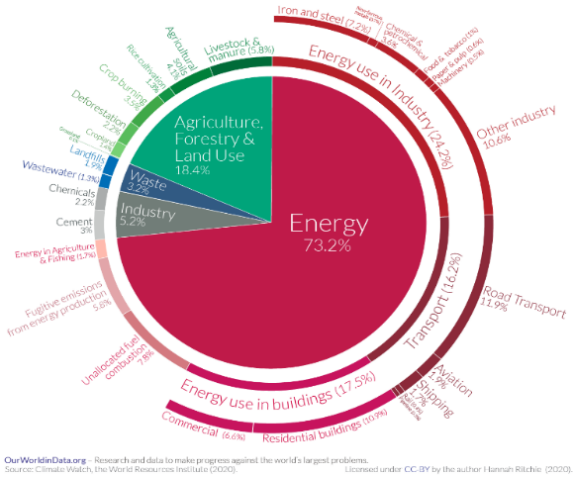


fig .1 Global Greenhouse gas emission by sector

ELECTRIC VEHICLES

Vehicles running on fossil fuels are one of the main reasons for increasing air pollution in urban areas and throughout the world. The gases emitted from this vehicle have played a major role in climatic change. So electric vehicles were introduced because it can reduce emissions at a great rate. It also can help the world from getting polluted effectively. And lessen the environmental damage and thus leading to a better state of public health. Electric Vehicles has many other advantages but the most important reason why it is preferred is because of their environmental benefits.

But some of the major drawbacks of Electric vehicles which indirectly affect the environment are:

I. *Batteries*

Electric cars depend on rechargeable lithium-ion batteries to operate. The technique of making these batteries, from the use of uncooked mineral substances including cobalt and lithium to manufacturing in huge factories and transportation, is power in-depth and one of the most important reasons important. largest carbon emissions in the world. electric cars today, say professionals. "The production of electric vehicles involves significantly higher emissions than the production of gasoline-powered cars. Depending on the country of production, this

represents between 30 and 40% of the additional production emissions, which come mainly from the production of batteries. said Florian Knobloch, a colleague from the Cambridge Center for Environment, Energy, and Natural Resource Governance

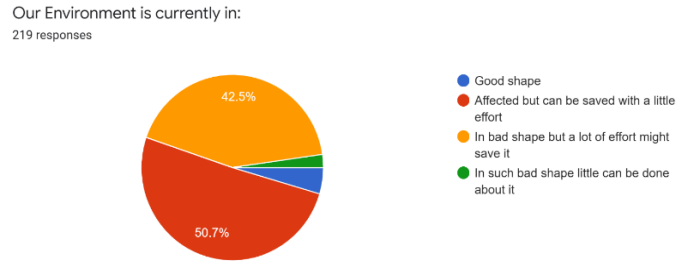
II. *Energy*

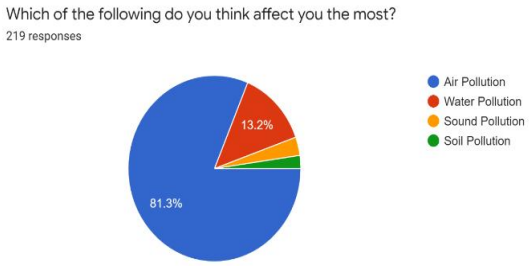
Electric Vehicles have numerous impacts on the environment due to manufacturing of the vehicles. Since the batteries used withinside the vehicles are heavy manufacturers are constantly in search of to lighten the rest of the vehicle. As a result, electric powered powered vehicles encompass plenty of lightweight materials that might need plenty of strength to deliver and process, along with aluminium and carbon-fiber-bolstered polymers.

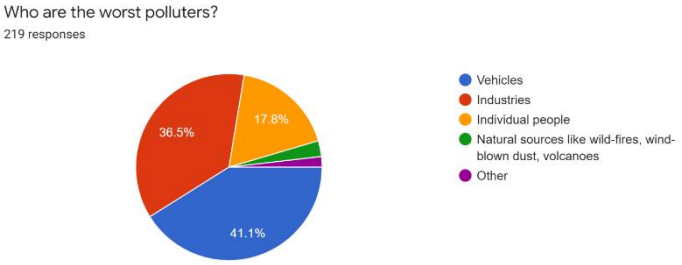
III. *Electricity*

Many new automobiles technology goal to transport vehicles far far from dependence on fossil fuels. One choice is the battery-powered absolutely electric powered automobile that doesn't use fuel or diesel gasoline and does now no longer immediately emit carbon dioxide (CO_2). However, as much as two-thirds of the energy used to recharge automobile batteries is produced with the aid of using the combustion of fossil fuels, the principle countrywide supply of greenhouse fueloline emissions. The Norwegian University of Science and Technology take a look at determined greenhouse fueloline emissions rose dramatically if coal changed into used to supply the energy.

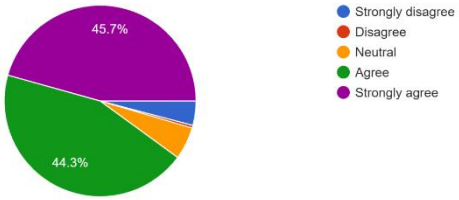
SURVEY RESULTS



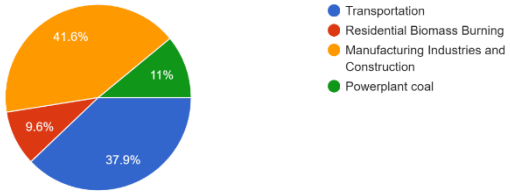




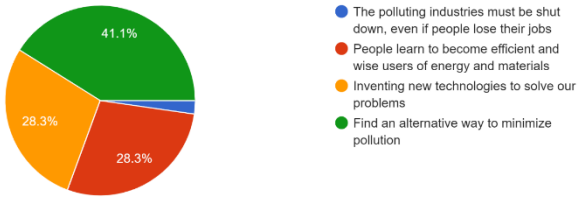
Our health gets badly affected by pollution.
219 responses



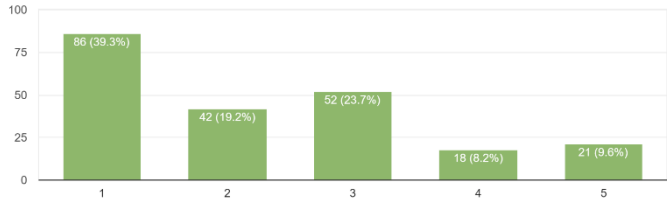
Which of these do you think is the biggest source of Air pollution
219 responses



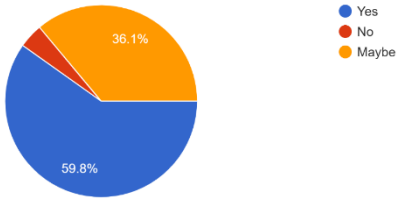
The single most important thing that will make sure the environment is healthy for future generations is if:
219 responses

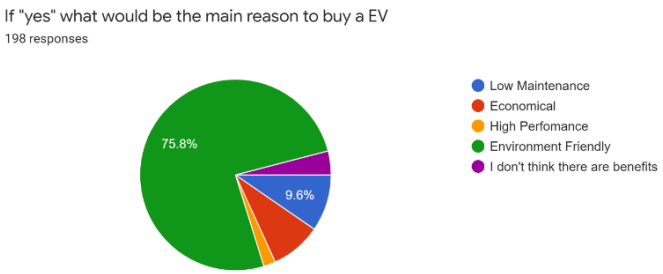


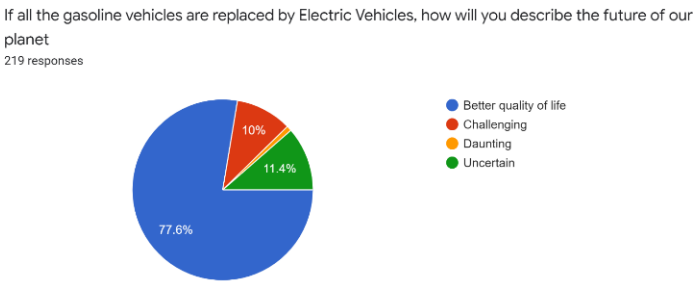
Electric Vehicles (EV's) is the perfect solution for decreasing pollution and its hazardous effect on ecosystem
219 responses



Would you consider buying a electric vehicle in future?
219 responses







RESULTS AND CONCLUSION

It is evident that a large group of people believe that Electric Vehicles are the perfect solution for tackling the increasing pollution. But from the research done it was studied that only about 17% of the pollution is caused due to transportation which included internal combustion engine vehicles. Rest 83% of the pollution is caused by other resources which included emissions from industries, agricultural practices, energy used in buildings, etc.Hence development only in the transportation sector won't solve the problem. But improvements in all the sectors will slowly change the environmental crisis with time.On roads, Electric Vehicles truly are more environmentally friendly when compared to internal combustion engine vehicles. However, the manufacturing of this type of vehicles emits a lotof harmful gases which is dangerous of the environment. And the materials needed to build electric vehicles are taken from the earth's natural resources which indirectly affect the environment. Also, the power station's that provide electricity to recharge the vehicles use fossil fuels majorly and only some of them are powered through solar and wind energy. These are some of the main drawbacks of electric vehicles which affect the ecosystem.These things can be changed by using the increase of renewable energy resources, using recycled materials for building the vehicle parts.

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