Environment & Transportation

Cindi Bagwell, Natasha Smith, Herrisha Morris, Jesse Orozco

DeVry University

#

#

# *Introduction:* (Jesse)

# Have you ever wondered what you can do to help fix the environment? Think about all the daily activities you do throughout the day. Think about how you get from point A to point B. People might not see it but everytime they use means of transportation the environment suffers. What can we do to help and what resources do we have to take action and have a positive impact? There is so much new technology at our disposal for means of transportation for example, electric cars are more sustainable than regular fuel cars. Per average a typical gasoline power car can run about 24.7 MPG, which is a big improvement from what it was before, however an electric car can run as high as 100 MPGe which is a little more than 300% of efficiency when we compare both. If electric cars are so much better than gasoline power cars what are the main factors that keep electric cars from being mass produced at lower cost? Are there any political factors affecting the industry of clean and renewable energy that do not let it take off?

#  The environment is such a fragile part of human daily life, people see and hear on the news the terrible things that are happening around the world such as extreme weather situations, animals going extinct, mass deforestation and pollution. Anti-pollution efforts should focus on renewable energy and electric cars. Americans can preasuare the government to add additional funding to mass produce electric cars and change our current energy system from fossil fuel to clean renewable energy.

##

##

##

## *Topic*

***Hook: Attention Grabber (should have been Jesse’s part, however he did not do it ( Natasha)***

 Tesla is setting the tone for renewable energy, with segways into responsible ethical business practices in clean energy, which are sure to be the wave for the future ensuring sustainability for our planet and adapting good habits to incorporate in our daily living.

***Research Questions (should have been Jesse’s part however he did not do it…(Natasha)***

1. Should electric car companies improve practices to ensure their role in this new energy revolution is truly clean and done ethically?
2. Are there any other solutions to clean energy as it pertains to the batteries used in electric cars?
3. What are the impacts of renewable energy on the environment?
4. What are the advantages or disadvantages of renewable energy?
5. Will Tesla be the answer to cleaner air quality and will they make more affordable models for working class people to join in the efforts of cleaner air quality?

***Working Thesis (Herrisha)***

Tesla is a strong competitor in the automobile industry. The company is a pioneer in the manufacturing of autonomous cars. These cars use electric energy, with limited to no carbon emission. The company's sustainability and eco-friendliness have made it famous and led to its increased sales and profitability (MWS, 2017). Tesla's focuses on environmental sustainability, safety, and innovation which have made its electric cars hugely popular. Despite other people's objections that electric vehicles just shift carbon footprints from the trail to the power plants, it is arguable that still, EVs are way better in reducing carbon footprints than cars that use fossil fuels (Miles, 2019). In fact, it should be our responsibility to promote the introduction of eco-friendly vehicles instead of coming with void theories regarding electric cars.

Climate change already has effects that can be felt by everyone, and Tesla has just provided a direction on what best needs to be done to combat this global disaster (Stein & Hawkins, 2020). For instance, Tesla acquired SolarCity in 2016 and grew its product portfolio to consist of battery storage, solar roof tiles and panels (MWS, 2017). Ultimately, Tesla has not only achieved a competitive advantage by integrating its business operations with measures for combating climate, but it has also provided a head-start and incentive for the adoption of "green" strategies and healthy environmental practices. Tesla has achieved a great deal of efficiency with respect to supporting clean air quality by producing electric cars that do not emit erosion into our air supply, however their practices of how they acquire the material to make these cars go could be questionable.

##

## *Context (Should have been Jesse’s part but he did not do it)*

***Background Information on Topic/Historical Timeline (Herrisha)***

Since 1945 population growth and economic growth led to more reliance on vehicles for transportation.As a result the number of cars in the United States increased as well as the number of highways.This resulted in the raid increase of air pollution especially in cities, that had a serious impact on environment and public health. In 1970 EPA set emissions standards to help control motor vehicles as well as other forms of transportation.These standards led the way to improved air quality. It sparked ingenuity that we should use a different source of energy that would be better for the planet. The importance of replacing fossil fuels in the transport sector by renewable energy will help combat climate change. The United States has taken the treat of global warming and air pollution seriously Greg Brannon, AAA’s director of automotive engineering says that “Today, more than 200,000 electric cars can be found on roads across the country as almost every manufacturer sells them,”

***What ethical frameworks will your team deploy to help develop the topic? (Natasha & Cindi)***

***(Should have been Jesse’s part but he did not do it)***

The ethical framework that my team and I plan to deploy is to take a look at the decisions we all make that permeate everyday life. We will explore how companies make ethical decisions for the products they put into the market that could potentially be damaging to our ecosystem. The frameworks will be composed of recognizing the ethical issues considering the parties involved, Gathering all relevant information, formulating action and considering alternatives as it relates to our topic.

# Tesla and Panasonic partnership (Cindi)

## *Description*

In the beginnings of a new decade, a group of engineers aspired for change. A world that does not rely on the use of fossil fuels for transportation. The group soon created the company known today as Tesla Motors. Tesla will open new doors for the world. Little did these entrepreneurs know, Tesla will drive the world towards a zero-emission future (Tesla, 2020). The company formed a strong partnership with Panasonic in 2016. The two companies will come together to enhance and work on solar energy innovations. Current operations reside in Buffalo, New York; for the production of solar battery cells. Panasonic maintained that they will be removing themselves from the operation. Their plan is to cease production in the month of May, 2020, followed by officially, exiting the New York-based factory by September, 2020 (Yamazaki, 2020).

##

## *Technology & Ethics* (Cindi)

The world is filled with pollutants. These pollutants harm our home, planet Earth. However, CEO, Elon Musk is determined to bring electric vehicles to consumers, in hopes to attract more to the future of zero emission. Elon Musk bought the company of Solar City, one of the top solar companies in the United States. It is hoped that the expertise of the two innovative companies could potentially cause a breakthrough in the needs of the solar industry (Hodson, 2016). Last year, in 2019, the CO2 pollutants exceeded “400 million parts per threshold”. In simpler terms, it could be very catastrophic for the environment if these statistics remain the same in our society and culture (Hodson, 2016).

## *Evidence* (Cindi)

In order to achieve zero-emission and lowering the Co2 levels in our atmosphere, the energy needs to be generated. Meaning, this energy needs to be stored and utilized for purposes of transportation. Per the company of Tesla, in order for this mission to be prevalent, the technology, generation, and transportation must be in sync, all together, in order for a seamless operation experience (Tesla, 2020).

## *Thesis Connection* (Cindi)

My section connects to the thesis as it pertains to the importance of the Co2 pollutants that harms our planet. It also discusses the innovations of Elon Musk’s company, followed with how their innovations will drive our planet into a cleaner, healthier, environment.

## *Related sections* (Cindi)

Lastly, my section relates to *Renewable energy’s impact on the environment*. Electric vehicles and Solar energy will, in no doubt, positively impact the environment. In my personal opinion, this section will flow well into the section of *Renewable energy’s impact on the environment*. Both correlate similarly in topics. Perhaps, we could combine and put the two sections together for a logical, seamless, flow.

#

# Renewable Energy Benefits (Herrisha)

## *Description*

Renewable energy is the energy produced from the source that does not deplete like sun, water, or wind. These sources of energy cannot replenish within human life. Renewable energy has benefits both the health of humans and the environment of renewable energy, including solar energy, wind energy, hydro-energy, and energy from the biomass. The benefits of renewable energy are that it does not involve the production of pollutant gases into the air hence no pollution. For instance, hydro-energy does not cause water pollution unless during the leaking of oil, and that is rare. Solar power makes use of the solar hence minimum land use, therefore, protecting the environment. It utilizes the solar rays in generating current unlike the case of coal, which has to burn, resulting in the production of electricity. In fuel, the gases emission pollute the air, water, and the soil at large. These renewable energy sources produce electricity, which is not associated with the emission of pollutant gases into the atmosphere.

##  *Technology & Ethics (*Herrisha)

“The growing awareness of the need for sustainable energy sources has propelled renewable energy technologies into the mainstream to a greater extent than ever before, due to their ability to provide an alternative energy path characterized by inexhaustible resources”(Taylor, 2008). Recently, there has been increased application of technology in the production of renewable energies. For example, Tesla Motors has utilized solar energy in automobile manufacturing. There has been the incorporation of technological devices to conveniently generate energy from solar, wind, water, and biomass.

 The use of renewable energy has a wide range of ethical and moral issues. Sources such as solar, geothermal and are often proposed as renewable energy sources as alternatives to nuclear and fossil fuel.The ethical challenges renewable energy faces is in the short term it will be more expensive that fossil or nuclear fuel .The price differentials means that cleaner energy will only be able to wealthy individuals and countries. A decrease in energy usage is only two way possible one if we decrease demand or decrease the population of people demanding energy

***Supported Evidence* (Herrisha)**

The evidence gathered, is the concept used by the Tesla motors concerning the sustainability of solar energy when incorporated in the automobiles. Jennifer Taylor maintains the ethics of renewable energy concerning increased technology. Sustainability, deployment, preservation, utilization are some of the ethics in renewable energy (Taylor, 2008). The Arizona Solar Center, which utilizes solar energy to generate electricity, and it is renewable energy.

## *Thesis Connection* (Herrisha)

 This section supports the team thesis that the benefits of renewable energy on the environment strongly recommend the impact of these energies.

***Related sections* (Herrisha)**

Other related sections include the demerits of using renewable energy in the environment. The regulatory policy governing the use of this energy is another broad topic, which would have been of use during our project.

**Renewable energy’s impact on the environment(Natasha)**

# *Description*

 “Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. For example, sunlight or wind keeps shining and blowing, even if their availability depends on time and weather”(Shin,L. 2018). There are many sources of energy technologies, all of which have an impact on our environment. Those impacts could be harmful like fossil fuels for example and some could be helpful renewable energy technologies like wind or solar energy. Renewable energy has substantial benefits to our climate, our health and our economy. To be clear, renewable energy could also have some environmental impacts that could be very significant, however it is important to understand the level and intensity of the environmental impact which could vary depending on the specific technology used.

 As renewable energy becomes a larger part of our energy supply, we should have a better understanding of potential or current environmental issues that could be associated with each source. Let's look at solar energy as it relates to the impact on the environment. Land use and the use of hazardous materials are just a few of the impacts renewable energy could have on the environment. As we all know, the impact could vary and it depends on the scale of the system being used. Despite the impacts, renewable energy is still more beneficial than energy like fossil fuel, coal and natural gas.

***Technology & Ethics* (Natasha)**

 Green energy technologies' purpose is to achieve effective and efficient ways to harness energy that would reduce the amount of pollution in our environment. Electric cars and wind turbines are examples of green energy technologies. When it comes to technology and ethics as it relates to clean energy and companies like Tesla, they claim to be the front runners for providing the safest factories in the world leading with ethics and making sure their employees are working in the most safe conditions. Although Tesla may provide safe work conditions in their plants the question remains, how safe and ethical are the conditions for those who are tasked with harnessing the cobalt that lithium-ion batteries run on which Tesla uses for their clean energy vehicles.

Lithium-ion technology which is fueled by cobalt is the best performing technology for energy storage based on batteries and the most effective option for electric cars. Many who support clean energy technologies have concerns about the social issues these green technologies incorporated including things like child labor and environmental pollution. The exploitation of children and poor people to mine cobalt in highly unsafe conditions to make the lives of others easier or pave the way for bragging rites on how they are conscious of their footprint is of great ethical concern to some. The tech revolution industry needs to find new battery technology and other applications to ensure the materials being used are completely clean and ethical.

***Supported Evidence* (Natasha)**

 Some of the evidence gathered to support my findings are sourced by hard core facts. For example when it comes to technology and ethics, database business source complete (2018) contends that the majority of cobalt is mined in Dominican Republic of Congo where two-thirds of the world cobalt and essential ingredients in our smartphones and electric cars comes from one of the planets poorest countries and are all too often mined by children.

 Evidence that is still needed are fact checks regarding the ethical dilemma of mining cobalt and other technologies that should be explored to ensure that clean energy is 100% clean. The next steps of my research process is to analyze the data that is collected for my portion of the research paper and review as well as summarize the data in a manner that directly relates to the research questions and working thesis.

***Thesis Connection*** **(Natasha)**

***How will your section support the Team Thesis?***

My section will support the thesis by contributing to the question of clean energy truly being clean and the residual effects of acquiring materials to make the planet a safer more sustainable place to raise families for the generations to come. My section will also focus on clean air technology and how it relates to ethics.

***Related Sections* (Natasha)**

***What other sections does your section have a strong relationship to? How might this help you develop order and transition areas of your team course project?***

Other sections that my portion of this dynamic topic may resonate strongly with are areas of the paper discussing how important it is to be responsible in the efforts to save what’s left of our natural resources and how preservation of this planet through lower emissions, solutions and other clean technology alternatives will shape future generations. This will help me develop order and transition areas of our team course project by keeping up with the flow of things, injecting supportive facts and evidence as well as making sure our project is cohesive and congruent from start to finish.

# Conclusion (Jesse)

***What are you proposing to achieve with your project? What will be the call to action for your audience?***

In conclusion, the purpose of this project is to shine a light on the environmental changes that need to be achieved in order to have a cleaner environment. This research paper will demonstrate the benefits or renewable energy and the great impact it would have on reducing CO2 emission, show supportive evidence on how Tesla is a leading force for future car manufacturers and how clean energy contributes to a better environment. Clean air technology is the best alternative for sustainability as it pertains to our environment. Some examples are solar panels and an abundance of other new technology and renewable energy. The call to action will be simple, We will urge big clean corporations to advance towards more affordable solutions for working class people to join in the efforts on a larger scale. In the wake of being more conscious of our footprint and how we contribute to our society as a whole, it is our hope that more people would adapt the practices to ensure we could save what’s left of our planet and natural resources for the next generation and the generation after that.

#

# *References*

Brown University (2020) A Framework for Making Ethical Decisions. Retrieved from:

 <https://www.brown.edu/academics/science-and-technology-studies/framework-making-ethical-decisions>

Ethical and Moral Aspects of Energy Use | Encyclopedia.com. (2018). Retrieved May 28, 2020, Retrieved <https://www.encyclopedia.com/environment/encyclopedias-almanacs-transcripts-and-maps/ethical-and-moral-aspects-energy-use>

Electric vehicles & the environment. (n.d.). Retrieved May 26, 2020, from

 [Environmental Impact of Electric Vehicles](https://www.energysage.com/electric-vehicles/advantages-of-evs/evs-environmental-impact/)

Eisenstein, P. A. (2019, May 9). AAA study finds Americans are warming to electric vehicles,

 but most aren’t ready to buy — at least not yet. Retrieved May 31, 2020, from <https://www.cnbc.com/2019/05/08/aaa-says-americans-warm-to-electric-cars-but-most-arent-ready-to-buy.html>

Hodson, H. (2016). How Tesla could change the solar power game. *New Scientist*, *231*(3086), 21. https://doi.org/10.1016/S0262-4079(16)31460-9

Lapko, Y., Trianni, A., Nuur, C., &Masi. D., (2019). In Pursuit of Closed-Loop Supply Chains for Critical Materials: An Exploratory Study in the Green Energy Sector. Journal of

 Industrial Ecology, 23(1). 182-196. Https.//doi.org/10.1111/jiec.12741

Shinn, L., (2018) Renewable Energy: The Clean Facts. Retrieved from:

 <https://www.nrdc.org/stories/renewable-energy-clean-facts#sec-whatis>

Taylor, J., 2008. Ethics of renewable energy. [Accessed 27 May 2020].<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.460.3902&amp;rep=rep1&amp;type=pdf>

TESLA. (2016, December 1). Tesla and SolarCity. Retrieved from <https://www.tesla.com/blog/tesla-and-solarcity>

TESLA. (2020). About Tesla: Tesla. Retrieved from https://www.tesla.com/about

Walt, V., (2018) Special Report: Blood, Sweat and Batteries. Fortune, 178(3), 104-114.

Yamazaki, M. (2020, February 26). Panasonic is pulling out of Tesla's troubled solar factory. Retrieved from <https://www.businessinsider.com/tesla-panasonic-end-solar-cell-partnership-nikkei-2020-2> Retrieved from: EBSCO database business source complete.