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Data 698

Project Proposal: Life After (During) Climate Change

Introduction

“Climate change” is not just a concept anymore. We are actually living in this change for a long time such as frequent natural disasters such as wildfire in Amazon, earthquake in California, hurricane in Bahama and so on. We can keep go on and on with the natural disasters that happened to the world recently. Surprisingly, the climate change was barely discussed in 2016’s presidential election. Especially when I heard that President Trump’s rollback of climate and environmental regulations and intention to withdraw from the Paris Agreement, I was shocked and angry like many other people. However, for the Democratic Debate for 2020, climate change becomes the top concern among the voters and all of the candidates give out their “solutions”.

Relevant Research

Among these “solutions”, I am interested in Bernie Sanders, Andrew Yang and Elizabeth Warren’s proposals. Bernie Sanders brought up the Green New Deal which will cost \$ 16 trillion. Elizabeth Warren talked about changing to 100% clean energy. The last but not the least, which I am interested in the most, Andrew Yang mentioned about the new energy – Thorium-based nuclear energy and the controversial geoengineering.

Besides the Democratic debates, David Wallace-Wells’ book, *The Uninhabitable Earth: Life After Warming*, inspires me for this project as well. In his book, he lists a lot of intimidating “facts” about the environment after warming. For instance, by only 2 degree increases, the ice sheet begin their collapse, 400 million more people will suffer from water scarcity, major cities in the equatorial band of the planet will become unlivable, Northern latitudes heat waves will kill thousands each summer, and 32 times as many extreme heat waves in India, each lasts 5 times longer, exposing 93 times more people.

These opinions draw my attention to the following questions that I would like to know or able to answer in my project.

Research Questions

(1). Can we change to 100% clean energy like Elizabeth Warren proposed? What are the new energy sources to replace the fossil industry? Does Andrew Yang ‘s proposal of Thorium-based nuclear energy work? If Bernie Sanders will be against to fossil fuel industry in the Green New Deal, will it affect our environment and economics?

(2) In Andrew Yang's proposals of environment, he mentioned that there are unavoidable consequences from climate change. Is this true? If the historical data can support his believe, then what should we do to avoid the loss that natural disasters bring us? Should we move from costal places to inland? Should we build the sea wall because of the global warming? Should we need to have solid disaster plans?

(3) Most of candidates mentioned about Net-Zero Emissions. How can we achieve that? When can we achieve that?

(4) What does global warming bring us? More and more natural disasters? Economic loss? Health issues? hypothetically, if the temperature increases by 2 degree Celsius, what challenges will we have to face?

Methodology

For this project, I will have to rely on the data sets online. Most data sets are from government's websites such as energy.org, world-nuclear.org, ourworldindata.org and so on. Collecting data will not be a big problem but there are still some challenges I need to face and hopefully they will help answer our questions. For example, I would like to find the correlation between the increase of temperature and the number of times that natural disaster in the same year. And Hypothetically, my project can predict the likelihood of the natural disasters with certain temperatures.

I also would like to use my project to check the numbers that David Wallace-Wells showed in his book. In each chapter of his book, he did not show the data/ graph / chart to support his claim so even though I agree with most of his opinions, I would like to see if my research can support his idea or disapprove his point in a scientific way.

Assumption

Assumption for this project is obvious, the climate change and global warming will make us or the future generations miserable. But by how much, I hope that my project can get some insights for this issue.

Reference

Bernie Sanders, <https://berniesanders.com/issues/green-new-deal/>

Andrew Yang, <https://www.yang2020.com/blog/climate-change/>

Elizabeth Warren, <https://elizabethwarren.com/plans/clean-energy>

David Wallace-Wells, The Uninhabitable Earth: Life After Warming