The Climate Change Ninjas Podcast Report on Climate Change

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**Introduction**

 The climate change ninjas took on the mission of educating our listeners on global warming. Each member of our group did research on topics of public opinion, health, carbon tax, renewable energy, or cost/economics relating to climate change. The organization of the topics was intentional to bring multiple aspects of the topic into the discussion. The podcast itself allowed us to explore many of these aspects and share them with our audience, although treating any one topic in depth was challenging. Below I provide more details on our podcast and on my research, which focused on how climate change could affect people’s jobs, food supply, medical problems, living conditions, and long-term health costs.

**Reflection**

As a group, we came up with five different subtopics related to climate change, and from those topics, we came up with questions, found audio clips, statistics, and quotations that would start a discussion. The first topic, people’s opinions on climate change, was introduced with a TED talk on how stopping climate change begins with talking about it. The conversation shifted over to how health risks due to climate change can change someone’s perspective on the issue. Also, how agriculture will be massively affected through crop yield, increased prices of food, and loss of jobs, especially in the south. We discussed what the carbon tax is and then played a Ted talk that discussed some negatives about the carbon tax and why some environmentalists do not support it. The topic shifted over to an alternative to carbon, which is renewable energy such as wind turbines, electric cars, solar panels, and hydro/wind power. We played a TED talk on how China is leading the pack when it comes to reducing carbon emission and is implementing renewable energy which allowed them to “get rid of an Australia’s worth of carbon emissions.” To tie all of the topics together, in the end, we discussed the long- and short-term costs of each subject and how Americans should be considering the higher costs they will be paying in the future if they don’t do anything to mitigate the problems now. At the end of our podcast we brought up a quote to discuss “if we as people limit global warming to 1.5 degrees we would save the global economy more than 20 trillion by the year 2100,” and we brainstormed ways individuals and governments could help with that.

 We were limited on how in-depth our conversation could go for each topic since we had five topics to get through in only thirty minutes. Our discussion only skimmed the surface of climate change providing only five sub-topics when there could have been many more. The video clips we used could have been more effective by stating less statistics and instead bringing up interesting questions or points on the subject. It was difficult to have a back and forth conversation without being able to look at the person you are talking to so movement of the desks to face each other would have been helpful also. The back and forth conversation could have been helped by the introduction of more thought-provoking questions we only used a few of the many we had.

**Research**

Adverse health effects due to climate change are caused by air pollution, food and waterborne diseases, natural disasters, and temperature-related deaths and illnesses.

Both the indoor and outdoor air we breathe is being affected by climate change. Methane, carbon dioxide, and CFCs are being released into the atmosphere, which is thinning the ozone layer that protects us from the sun and its harmful UV rays (2014). The increase in carbon dioxide is promoting tree growth, which causes more allergens to be released into both outdoor and indoor air (Usgcrp, 2016). Air quality negatively affects resperatory and cardiovascular systems, increases allergic sensitization, and asthma episodes (Usgcrp, 2016). Smog causes a plethora of long- and short-term health problems such as diminished lung function, increased emergency room visits for asthma, and increases in premature deaths (2014). Air quality is the most significant repercussion of air pollution and will cause people worldwide to deteriorate cardiovascular and resperatory health if something is not done to mitigate the pollution.

The impacts of climate change threaten food production, prices, trade, access, and illnesses. Crop yields are predicted to decline due to more rainfall, severe weather events, change in weather patterns, and heightened pest competition (Levy, 2005). A report by the US Global Change Research Program states that “climate change is very likely to affect global, regional, and local food security by disrupting food availability, decreasing access to food, and making utilization more difficult” (Usgcrp, 2016). Carbon dioxide improves the growth of carbohydrates in plants but decreases the number of minerals (calcium, iron, zinc, vitamins, and sugars) and proteins which lessens their nutritional value (Usgcrp, 2016). With the rise in water temperature seasonal and geographic changes for toxic and harmful algae will increase the exposure to waterborne pathogens and toxins that cause illnesses (Usgcrp, 2016). Runoff from more intense and frequent storms due to global warming will compromise recreational waters, sea life harvesting, and drinking water because of the increased number of pathogens and toxic algal blooms (Usgcrp, 2016). Food security is a significant threat from global warming, and people will see the repercussions from it steadily increase.

Projections show that there will be an increase in natural disasters due to climate change. The increased frequency and intensity of droughts, wildfires, and flooding has increased exposure risk in the United States (Levy, 2005). Coastal flooding has risen due to extreme precipitation, hurricane intensity, and rainfall rates, which results in sea level rise (Levy, 2005) The vulnerability of forests due to climate change can be seen in the deadly California wildfires that have been taking place in recent years (2014). Long periods of record high temperatures caused by global warming contribute to dry forest conditions that start these wildfires (2014). We have seen climate change driven natural disasters that will keep getting more severe over time.

The increasing amount of greenhouse gases that are being trapped in the atmosphere cause average and extreme temperatures to increase. St. Louis, Philadelphia, Chicago, and Cincinnati have suffered average and record heat increases, which have led to more deaths due to heat than ever (2014). Economically disadvantaged groups, children, and the elderly are the most vulnerable to fatality and illness from the rise in temperature (Usgcrp, 2016). These increases in temperature also cause chronic conditions to worsen (Usgcrp, 2016). The vulnerability of urban populations to heat-related health impacts are projected to increase due to a rise in urbanization (2014). These extreme heat events are a cause of preventable health conditions and deaths nationwide.

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