**Introduction- Name 1**

Think about the changing weather patterns, the terrible flooding, and the fires that are a result of incredible dry heat. Think about the food that needs to be cultivated and the threat to food production as a result of these extreme weather changes. The impact of climate change is hurting each one of us, whether it is visible or not. Legislation on a global level will be the only way to slow down climate change and this needs to begin today.

The Intergovernmental Panel on Climate Change, also known as IPCC, was established in 1988 in order to provide a reliable source of scientific information in regards to the earth (United Nations). The IPCC is a platform that unites the world efforts in developing legislation to combat climate change. The IPCC released a report on the cause of the rise in sea level and how it has greatly changed over the past few decades. This report highlights that between the years of 1880 and 2012, the average global temperature increased by 0.85 degrees celsius. As a result of this increase, melting snow and ice are a contributing factor to the rise in sea level. This increase in global temperature is believed to be caused by higher concentrations of greenhouse gases. If there is no change in emissions, mean global temperature will continue to rise above the pre-industrial level and the oceans’ ice will continue to melt (United Nations).

The first step in addressing the worries of climate change to humans was at the “Earth Summit” in 1992, which was produced by the United Nations Framework Convention on Climate Change, also known as UNFCCC. As of now, 197 countries have become a part of this convention. The goal of the summit is to prevent “dangerous” human interference with the climate system and for countries to work together on a global level to create a change in our world (United Nations).

Climate change affects social, political, and economic systems and a global level. It is only through legislation on climate change at the global scale that we may be able to face this issue as a united front.

**Social- Name 2**

Climate change affects many different aspects of the human social condition, the primary of which is the effect on our health. According to the European Commission on Climate Change, “Climate change is a significant threat to not only human health but also to animal and plant health.” The Commission goes on to state that influences on health include, but are not limited to, “Increases in summer heat-related mortality, increases in the risk of accidents and impacts on well-being from extreme weather events (floods, fires, and storms), changes in the seasonal distribution of pollen…virus, pest, and disease distribution, risks in relation to change in air quality and ozone”. These threats are palpable in their severity to humankind. The increase in the problems stated by the Commission, such as extreme weather, and changes in pollen, virus, and disease distribution involves the world's population without regard for national boundaries.

The Social Cost of CO2 is compiled by the United States Environmental Protection Agency, also known as the EPA, and other federal agencies to estimate the social cost of carbon emissions that have been identified as the primary cause of climate change. According to the EPA, social effects of carbon emissions on climate change include “changes in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs.” The Social Cost of CO2 estimate (SC-CO2) represents the approximate cost of stress on all the previously mentioned factors per one ton of carbon emissions added to the atmosphere. The 2015 3% average for this figure is $36 per ton, however this figure increases at a rate of about$6 every five years, with the rate decreasing slightly before reaching a $69 per ton by 2050. This estimate in correspondence with the current carbon emission estimate of 1200 tons per second, according to CBS news, provides a very frightening outlook on the current and future stress towards various social aspects of human life.

The social effects of climate change affect all humans equally. Climate agreements such as UN climate agreements or the Paris Climate agreement have seen nations cheat() or leave as a result of the lack they were not created with a blanket clause of legal binding for each member nation. The more successful climate agreements, such as the Montreal Protocol and the Kyoto Protocol, both still in effect and applauded for their positive efforts in slowing ozone damage and climate change, were legally binding. In order to slow the social effects of climate change, the issue must be addressed on a global scale with legislation that legally binds nations to adhere to regulations. The health of our species and other aspects of the human social condition do not have time for cheating, selfishness, or the bureaucracy of individual nations.

**Political- Name 3**

As with most debates about pressing international issues, much of the deliberation on climate change policy will come down to questions of national sovereignty- each nation’s right to control affairs within its borders without external interference. Developing national policies on climate change presents a unique dilemma in that the success of one nation is directly affected by the actions, or inactions, of other nations. Unlike international issues of the past whose scope and impact have been mostly regional in nature, the consequences of climate change will affect every part of the world, and as a result the normal prohibitions of sovereignty are not a compelling defense against international interference.

In addition to sovereignty concerns, national-level solutions would almost inevitably fail due to enforcement issues. Even if nations were to commit to their own emission reduction goals individually, there are no objective guarantees that their reporting standards would match the rest of the world, or that they would take adequate action should they fail to meet such targets. International agreements, whether binding or non-binding, provide mechanisms for accountability and enforcement. For example, Article 13 of the 2015 Paris Climate Agreement established a detailed transparency framework, requiring each party nation to submit regular reports on their progress and subject themselves to international monitoring to hold themselves accountable.

Finally, the disparity between countries presents a major obstacle to the success of any individual-level solutions. According to data from the U.S. Department of Energy, China makes up 30% of the world’s carbon dioxide emissions, and the United States makes up another 15%. Even if the rest of the world were to pass individual-level legislation and drastically reduce their carbon emissions, they only account for just over half of the world’s carbon emissions. In addition to withdrawing from the Paris Accord, the Trump administration has rolled back Obama-era environmental protections such as the Clean Power Plan, indicating that the United States is actively working against efforts to reduce carbon emissions. While it is nominally cooperating with the Paris Climate Accord and making progress towards reducing emissions, China has proven to have a shaky record on international environmental agreements in the past, especially when they come at the cost of economic growth. For example, researchers discovered that Chinese factories have been emitting CFCs in violation of the Montreal Protocol earlier this year (Rigby et al.). Data from the Center for Strategic & International Studies’ China Power Project demonstrates that 73% of China’s energy consumption comes from coal, and most of that coal is used to power its industrial sector, which in turn has powered its rapid economic expansion. In the absence of strong incentives from the rest of the international community, action by either the United States or China could easily render the rest of the world’s efforts ineffective.

**Economic- Name 4**

Climate change will irrevocably hurt the global economy. According to British economist Nicholas Stern, “if we don’t act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever” (6). This is no single country’s GDP, this is the total economic output of the globe as a whole. The effort towards enacting climate change mitigation policy must be an international effort. A single country alone enacting policy which cuts its carbon emission as much as 80% would not have enough sway to mitigate the irreversible processes already in effect. Every country would have to enact policy to reduce carbon emissions 60 to 80%; without this the atmospheric concentration of CO2 will continue to rise (Barrett 49).

There are also problems with allowing countries to make their own policies on climate change mitigation. In addition to the fact that countries on their own cannot control global human greenhouse gas emissions, there are also countries that would benefit from doing nothing, and allowing global warming to continue over the next century. “Russia, China, and Canada would all gain” (Barrett 51) as more natural resources and developable land become available. While some countries may gain from global warming in the short term, it will inevitably spell disaster for others.

A major economic issue of allowing national governments to enact climate change policy is free riding. “Free-riding occurs when a party receives the benefits of a public good without contributing to the costs” (Nordhaus). Free riding is an issue because it incentivizes individual nations to not enact climate change policy. “In the case of the international climate change policy, countries have an incentive to rely on the emissions reductions of others without taking proportionate domestic abatement” (Nordhaus). Considering the issue of free riding, no national government on its own would increase its spending for climate change mitigation because it would mean other countries may not have to increase their spending whatsoever and “free ride” off of another country’s efforts, and there are no short term (next several years) benefits for either country in this scenario.

However, “successful efforts in many areas, including the protection of the ozone layer, have demonstrated that international co-operation can overcome issues of free riding” (Stern 450). When domestic issues are set aside and international efforts are made to enact climate change mitigation policy such as in the Montreal Protocol, it is easy to see that the only way to continue with policy in the future is international enforcement of these efforts. International cooperation to solve global problems has been shown to work in the past: “smallpox was eradicated in 1977… Provision of this global public good meant that people no longer needed to die of this disease” (Barrett 52). The global economy will see the long term benefits of international cooperation when it comes to global warming policy. Much like the effective eradication of smallpox, global warming can be controlled and possibly stopped, but only if an international effort is made.

**Conclusion- Name 5**

The presence and effects of climate change is an issue in which prominent organizations, such as the EPA, the United Nations, and the European Union have invested countless into understanding. Independent scientific organizations, whose sole purpose is to provide unbiased research, have been established in response to climate change (United Nations). The volume of research and statistics on this topic is evidence itself to the magnitude and global reachings of this issue.

The question posed today is whether climate change is an issue that rests at the national level, or if it extends beyond borders. A nation's sovereignty, their right to choose what happens within their borders, is a significant concern when discussing policies. It's important to note that international solutions developed through the joint efforts of cooperating nations eliminate the need for this concern. International solutions decrease the risk of "free-riding" nations, allow for the establishment of a reliable monitoring system among global partners, and empower individual decisions in participation (Nordhaus). It is in these solutions in which the most beneficial outcomes are observed (Stern).

Climate change is unaffected by borders (Climate Change). The health issues that the European Commission on Climate Change outlines, such as heat mortality and air quality, are prevalent worldwide. The increasing frequency of extreme weather is occurring around the world. The temperature rise of 0.85C is a measurement of the average global increase (Climate Change). Established borders are irrelevant in this issue, and failure to address it as such will result in irreparable damage to the economy, political relations, and individual health within every nation. Ninety-seven percent of climate scientists are in agreement that the observable changes in our climate are a direct result of human activity (NASA). The collective efforts of humanity created this problem, and only through the same joint efforts will a solution be found.

Group Annotated Bibliography

***(Note this group organized their bibliography weirdly. Your bibliographies should be organized together, in alphabetical order, with your name in the annotation. For example:***

Henrickson, Jeff. *AOSC 200 document.* UMD AOSC 2020*.* [*www.umd.edu*](http://www.umd.edu)

Joey Knisely – I used this source to blah blah blah, 3-4 sentences here, blah blah.)

O'Brien, Emily. *What Makes International Agreements Work: Defining Factors for Success*.

Center on International Cooperation, 2012. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7839.pdf>

The information in this article was used as a reference for a general idea of the key components in a successful international policy. It outlines different considerations in the development of policies and details the why and how for each area. It also provides examples of successful policies and breaks them down in order to highlight exactly what about them allowed for their success as opposed to other policies. This source was not used to provide data on climate change but rather as a tool in understanding policy development as a whole.

“Climate Change Evidence: How Do We Know?” *NASA*, NASA, 9 July 2019,

climate.nasa.gov/evidence/.

The information provided on NASA’s website, specifically their section on the evidence on climate change, was used to provide statistics. These statistics were used because they’re a singular representation of the data collected from a multitude of scientific organizations. The reason for introducing this source and statistics in the concluding statement is because a number of scientific organizations previously referenced are included in the data presented by NASA.

Ap. “Carbon Dioxide Emissions Rise to 2.4 Million Pounds per Second.” CBS News, CBS Interactive, 2 Dec. 2012,<https://www.cbsnews.com/news/carbon-dioxide-emissions-rise-to-24-million-pounds-per-second/>.

This source speaks of the current emission figures both daily and yearly. The source then goes into several interviews with professionals within the field speaking of the problem at hand and where the efforts to combat this problem should go. This source appears to be reliable as the figures are based purely off data. CBS news is also a reputable, long standing news institution.

“Climate Change.” *United Nations*, United Nations,

[www.un.org/en/sections/issues-depth/climate-change/](http://www.un.org/en/sections/issues-depth/climate-change/).

This source is very helpful as it briefly explains all that the United Nations has done to help climate change. This includes the UN Intergovernmental Panel on Climate Change (IPCC) and their findings in their Fifth Assessment Report, the United Nations Framework Convention on Climate Change, the Paris Agreement and the agreement to help fight climate change, the most recent Climate Summit in 2019 and more. This source made it easy to understand what the UN is doing on a global level and how they should continue to keep it as a global legislation rather than just by country.

Dennis, Brady, and Juliet Eilperin. “Trump Signs Order at the EPA to Dismantle Environmental Protections.” *The Washington Post*, WP Company, 28 Mar. 2017, [www.washingtonpost.com/national/health-science/trump-signs-order-at-the-epa-to-dismantle-environmental-protections/2017/03/28/3ec30240-13e2-11e7-ada0-1489b735b3a3\_story.html?noredirect=on](http://www.washingtonpost.com/national/health-science/trump-signs-order-at-the-epa-to-dismantle-environmental-protections/2017/03/28/3ec30240-13e2-11e7-ada0-1489b735b3a3_story.html?noredirect=on)

This article describes early efforts by the Trump Administration to roll back environmental protection efforts, especially the Obama-era Clean Power Plan. I will use this as evidence of the United States’ continued lack of cooperation with international efforts to reduce carbon emissions. The source is reliable because it is a news story from a well-respected newspaper, the Washington Post.

Dryzek, John S., et al. “Climate Change and Society: Approaches and Responses.” *The*

*Oxford Handbook of Climate Change and Society*, Jan. 2012.

This journal article was very beneficial to the understanding of climate change. It explains the risks of what could happen without a proper climate change legislation and how it is largely affecting the social, political and economic systems in the world we live in today. It provides proper understanding and research on why it is impacting us and as a result, what we can do to help slow climate change down.

“Global Greenhouse Gas Emissions Data.” *EPA*, Environmental Protection Agency, 13 Apr. 2017, [www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data](http://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data).

This source outlines detailed information from the U.S. government about the sources of greenhouse gas emissions by country, by industry, and by type. It provides useful numerical data that is from a reliable source and can be used as quantitative backing to and derives most of its sources from international reports.justify claims made in the debate. It is also highly trustworthy because it is from the EPA

“How Is China Managing Its Greenhouse Gas Emissions?” *ChinaPower Project*, Center for Strategic & International Studies, 7 Mar. 2019, [chinapower.csis.org/china-greenhouse-gas-emissions/](https://chinapower.csis.org/china-greenhouse-gas-emissions/).

This source provides detailed reports about the Chinese government’s efforts to reduce carbon emissions, as well as the origins of their emissions. It details many of their current successes in implementation, as well as some of the hurdles it faces going forward. The data is reliable because it is from a respected organization (The Center for Strategic & International Studies) that cites other data from other reliable international NGOs.

Rigby, M., et al. “Increase in CFC-11 Emissions from Eastern China Based on Atmospheric Observations.” *Nature News*, Nature Publishing Group, 22 May 2019, [www.nature.com/articles/s41586-019-1193-4](http://www.nature.com/articles/s41586-019-1193-4).

This article is a scholarly journal publication describing a recent trend in CFC emissions, which were expected to drastically decline in the wake of the Montreal Protocol but have not declined nearly as much as expected. The authors use international data to trace the source back to mainland China, which appears to be in violation of the Protocol. This is a reputable source because it is from *Nature*, one of the most respected and prestigious scientific journals with a high standard of review before publication.

“Social Challenges.” Climate Action - European Commission, 16 Feb. 2017,<https://ec.europa.eu/clima/policies/adaptation/how/social_en>.

This source goes over the various social effects of climate change on the population. The source lists health effects, and subsequent effects on the overall vulnerability of the population, as well as effects on employment and education. This source appears to be a reliable one as the source simply states facts and is ran through the European Commission which works closely with the European Union.

“The Social Cost of Carbon.” EPA, Environmental Protection Agency, 9 Jan. 2017,<https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon_.html>.

The source lists various social effects of climate change before explaining and presenting its estimates of the cost of stress on the listed social aspects per one ton of carbon emitted. The source refers to this estimate as “SC-CO2”, the source then presents estimates of this figure of the next several decades. This source appears to be reliable as it is from the EPA, an agency of the United States Government.

United Nations. “Paris Agreement.” *United Nations Treaty Series*, United Nations, 12 Dec. 2015. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

This is the primary source text of the Paris Climate Accord, which is used as a reference a few times in the argument. It provides tangible evidence of actionable international agreement to reduce carbon emissions. It is a reliable source because it is the primary text of the document from the official UN website.

Stern, Nicholas. *The Economics of Climate Change: The Stern Review*. Cambridge University

Press, 2007.

This source is for statistics on future impact of climate change on the world economy. It is a very large review which was also turned into a textbook and was then released digitally 7 years after its initial publication. It also goes into detail about the importance of international cooperation and avoiding nation-by-nation climate change policies.

Nordhaus, William. “Climate Clubs to Overcome Free-Riding.” Issues in Science and

Technology, 10 Aug. 2015, issues.org/climate-clubs-to-overcome-free-riding/.

This source was used to describe the economic term of free riding. It supports an intergovernmental effort towards climate change mitigation policy, not necessarily international or global. I am not using its new ideas for climate change policy, but I am using this source because it has the best definition for the term free riding in the context of the issue of global climate change.

Barrett, Scott. “The Incredible Economics of Geoengineering.” Environmental & Resource

Economics, vol. 39, no. 1, Jan. 2008, pp. 45–54. EBSCOhost, doi:10.1007/s10640-007

9174-8.

This source goes into detail about the idea of remedying climate change through a process called geoengineering. I wanted to use this source to focus on its exploration of how crucial international cooperation is in reducing carbon emissions. This source also contains examples of successful international efforts, such as the eradication of smallpox.

O'Brien, Emily. *What Makes International Agreements Work: Defining Factors for Success*.

Center on International Cooperation, 2012. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7839.pdf>

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