



“Chasing Net Zero” Background Guide

Chair: Ben Vossen
Co-Chair: Shrey Shah

NOTE FROM THE CHAIR

Dear Delegates,

Hi everyone! My name is Benjamin Vossen, and I will be your chair for the “Chasing Net Zero” General Assembly. I am a senior and co-president of Wissahickon’s Model United Nations Club.

I have attended WAMUNC in Washington, D.C., where I represented Great Britain. At WAMUNC, my committee’s topic was the first Eurovision after the fall of the Soviet Union. It was a very fun time where I met a bunch of new people, some of whom I still keep in contact with. I also had the honor of being a permanent observer from the Holy See, which is essentially the Pope. At the end of that committee, I sang a resolution to the tune of the song “Mamma Mia.” No, do not ask me for the video.

Outside of Model UN, I am captain of the boys’ varsity tennis team, a sport I have been playing for 11 years. I also love wearing semi-elaborate suits. A lot of the time, they are embroidered or have unique patterns on them. My favorite one, in particular, has large gold paisleys in the center and many more small ones out on the edges of the suit.

Since this is a beginners’ conference, I hope you know that I believe in all of you. I have done much more embarrassing things at WAMUNC than anyone will ever do in this conference.

I am really excited to be chairing this committee. Although the premise is quite simple, there are many ways to go about this, and I’d like to see the twists that you all make during this conference. I hope you all will have a great time.

Sincerely,

Benjamin Vossen

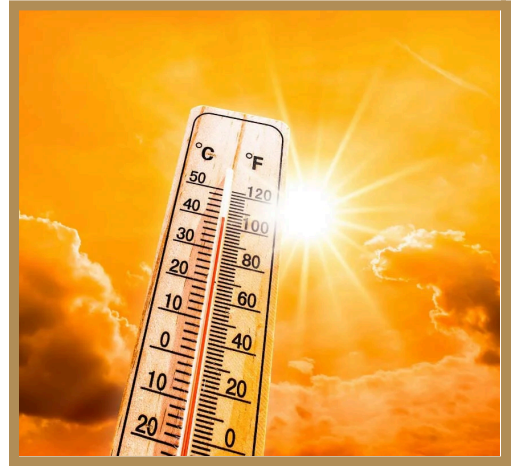
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Introduction to Climate Change

Climate change is indisputably one of the most pressing issues of the 21st century. According to a 2024 World Economic Forum report, by 2050, there could be an additional “14.5 million deaths and \$12.5 trillion in economic losses worldwide” due to climate change alone. With the impact of global warming already more apparent than ever, it is imperative to take action before it is too late.

The primary cause of climate change is the release of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) into the atmosphere, a process that traps excess heat near Earth’s surface, otherwise known as the Greenhouse Effect. As these chemicals build up in the atmosphere, Earth’s natural energy balance is significantly disrupted. Normally, these gases absorb infrared radiation (heat) from the sun, warming the Earth before this heat is eventually radiated out to space. While this process is essential for life, as greenhouse gases accumulate, this “thermal blanket” effect is considerably amplified, leading to global warming, water evaporation, and intense tropical storms.



Major sources of these greenhouse gas emissions include

- Burning fossil fuels for electricity and transportation
- Industrial manufacturing
- Agriculture and livestock production
- Deforestation and land-use changes

Further, this accelerated period of warming is more than Earth’s natural cycles of temperature shifts. Through measurements of trapped air bubbles in ancient ice cores, it has been determined that CO₂ levels today are higher than they have ever been in the past 800,000 years.

Extreme weather events, record-high temperatures, sea-level elevations, nationwide food insecurity, and irreversible environmental degradation are just a few of the major climate-driven issues affecting nations today. Regardless, every country has felt these effects to a certain degree.

While governments generally agree that climate change is a serious issue, they often disagree on who should bear responsibility, how quickly action should be taken, and how costs should be shared, often leading to scapegoating and limited execution of said actions.

Previous Agreements

Many countries have already convened in attempts to lessen the effects of climate change. While these agreements faced varying rates of success, they are nonetheless critical to addressing this crisis, providing a baseline of previous international frameworks:

Montreal Protocol (1987)

The Montreal Protocol on Substances that Deplete the Ozone Layer is a landmark multilateral treaty designed to regulate the creation and use of ozone depleting substances (ODS). Adopted in 1987, the agreement outlines timeframes and responsibilities of nations to phase out ODS usage to protect Earth's natural ozone layer.

United Nations Framework Convention on Climate Change (1992)

The UNFCCC is an international treaty established "to achieve stabilization of greenhouse gas concentrations in the atmosphere." Adopted at the 1992 Earth Summit in Rio de Janeiro and implemented in 1994, its purpose is to provide a framework for global cooperation on climate change. Today, it serves as a vital foundation for subsequent agreements, such as the Kyoto Protocol and the Paris Accords.

Paris Accords (2015)

Adopted by 195 parties at the UN Climate Change Conference in 2015 (COP21), the Paris Agreement is currently the most important global climate treaty in the world. Each involved nation chooses to voluntarily set pledges known as Nationally Determined Contributions (NDCs) relating to the treaty's primary goals:

- Limiting global warming to well below 2°C above pre-industrial levels
- Pursuing efforts to limit warming to 1.5°C
- Increasing support for adaptation and resilience
- Providing climate finance to developing countries

Nearly every major country in the world is a party to the agreement, including most UN member nations. However, countries like the United States have withdrawn from the agreement due to economic concerns.

Status quo of Emissions

Since the Industrial Revolution, the concentration of greenhouse gases in the atmosphere has increased exponentially. Industrialization, rapid population growth, transportation, energy generation, and heating all contribute to this worsening crisis, with countries such as India, the United States, and China adding most significantly to carbon emissions, given their vast

industrial infrastructure. While technological progress has transformed many sectors, global energy demand continues to grow, resulting in continued dependence on fossil fuels.

Coal-powered plants contribute to roughly 40% of all carbon emissions. For decades, countries and corporations alike have sought cleaner alternatives to satisfy their energy needs with fewer environmental concerns. One such solution is nuclear power, which many consider to be a viable candidate to replace coal entirely. However, a key challenge facing the international



community is balancing emissions reductions with economic growth. Developing countries often emphasize their need for affordable energy to reduce poverty, improve infrastructure, and expand industrial production. At the same time, scientists warn that continued increases in greenhouse gas emissions will make it increasingly difficult to achieve international climate goals.

Coordinating an International Response

Governments have initiated growing commitments to achieve “net zero,” offsetting greenhouse gases by balancing them with removal activities. However, net-zero policies remain a subject of debate. Critics argue that some objectives rely too heavily on future carbon removal technologies that have not yet been deployed at sufficient scale. Others contend that developing countries may require greater flexibility to continue economic growth and reduce poverty before undertaking aggressive emissions reductions. As a result, discussions surrounding net-zero frequently involve questions of technological feasibility, economic development, climate finance, and the equitable distribution of responsibilities among states.

Additionally, climate negotiations often focus on countries’ current as well as historical contribution to carbon emissions. Because nations that underwent industrialization as early as the 18th and 19th centuries contributed more substantially to historical global emissions, many developing nations argue that these early impacts should be considered when determining responsibility for emissions reductions and climate financing.

The consequences of continued emissions are already being observed worldwide. Indirect impacts of climate change, such as food insecurity, agricultural collapse, and resource depletion, disproportionately affect vulnerable populations, particularly those in developing countries and smaller island states.

This committee seeks to find a balance between economic expansion and environmental protection. Too often, the countries that fail to follow these climate agreements are the same ones most worried about the potential economic ramifications.

Status quo of Renewable Energy

Renewable energy has become one of the most important tools in the global effort to combat climate change. Unlike fossil fuels such as coal, oil, and natural gas, renewable energy produces little to no greenhouse gas emissions during operation.

Over the past two decades, the renewable energy sector has undergone considerable growth. Technological advancements have made renewable energy cheaper and more affordable, providing a feasible alternative to traditional fossil fuels. These types of renewable energies include wind, solar, hydro, geothermal, biomass, and marine.

Currently, China has the highest capacity for renewable energy, being the world's largest producer of solar panels. Despite this progress, renewable energy adoption remains uneven across the globe. Many developing nations face significant barriers to implementation, including limited access to financing, inadequate infrastructure, insufficient technological expertise, and concerns regarding energy reliability. In many regions, fossil fuels remain cheaper in the short term due to existing infrastructure and government subsidies.

Another challenge is the intermittent nature of some renewable energy sources. Solar power depends on sunlight availability, while wind power depends on day-to-day weather conditions. These fluctuations require investments in energy storage technologies, modernized electrical grids, and backup generation systems to ensure stable electricity supplies.

Additionally, global energy demand continues to increase due to population growth, urbanization, and industrialization. While renewable energy is expanding rapidly, global consumption of fossil fuels remains high. Many countries continue to rely heavily on coal and natural gas to support economic growth and meet growing energy needs.

The transition to renewable energy is a possible solution to this problem. However, it presents many challenges as the speed and scale of this transition remain unknown.



Committee Goals and Objectives

The General Assembly seeks to develop recommendations that strengthen international cooperation against climate change while respecting national sovereignty and economic realities.

Emissions reduction

Even though carbon emissions are among the primary drivers of climate change, many countries do not attempt to reduce them because they are essential to their economies (ex., the US's withdrawal from the Paris Accords). What's more, producers and members of the Organization of the Petroleum Exporting Countries (OPEC) might challenge agreements trying to reduce emissions because their economy relies so heavily on producing and exporting oil.

Implementation of renewable energy

Renewable energy presents a plausible solution to the issue of energy production. However, several sizable hurdles stand in the way: For one, the cost to remove current fossil fuel infrastructure might be too high for specific developing countries. Additionally, renewable energy often depends on the environmental circumstances necessary to obtain it; such is the case with wind, solar, or hydro power. These are all potential problems that this committee will attempt to solve.

Conclusion

Climate change is at our doorstep, and failing to take action now could result in disastrous consequences at an unimaginable scale. Rising temperatures, extreme weather events, and long-term ecological shifts are already reshaping economies, ecosystems, and public health systems worldwide. While international agreements such as the Paris Agreement, the UNFCCC, and the Montreal Protocol demonstrate that global coordination is possible, the current trajectory of emissions shows that existing commitments are not yet sufficient to meet global temperature goals.

Ultimately, the success of global climate action will depend on cooperation, fairness, and political will. No single nation can resolve this crisis alone. The decisions made in this committee should aim to create practical, enforceable, and equitable strategies that acknowledge differing national circumstances while still addressing the urgent need to reduce emissions and protect future generations.

Questions to Guide Your Research

I. On Emissions and Responsibility

- Should responsibility for addressing climate change be based on current emissions, historical emissions, economic capacity, or a combination of these factors?
- Should developed nations face greater obligations for emissions reductions and climate financing than developing nations?
- How should the Assembly address countries that consistently fail to meet their climate commitments?

II. On Climate Finance and Economic Development

- Who should bear the financial burden of climate mitigation, adaptation, and disaster recovery efforts?
- What obligations, if any, do wealthier nations have to assist countries disproportionately affected by climate change?
- How can climate action be pursued without undermining economic growth, poverty reduction, and industrial development in developing countries?
- Should international climate funding be tied to specific reforms, transparency measures, or emissions targets?

III. On Energy Transition and Renewable Development

- Should the Assembly establish international targets or timelines for reducing dependence on fossil fuels?
- How can developing nations overcome financial, technological, and infrastructure barriers to renewable energy adoption?
- Should nuclear energy be considered a viable component of international climate strategies?
- What role should governments play in subsidizing renewable energy and phasing out fossil fuel subsidies?

IV. On Adaptation, Resilience, and Climate Migration

- How should the international community support countries facing severe climate impacts such as droughts, floods, sea-level rise, and extreme weather events?
- What obligations exist toward populations displaced by climate change, and should climate refugees receive distinct international protections?
- How should the costs of climate adaptation and disaster recovery be shared among nations?

V. On Governance and Enforcement

- Should future climate agreements include stronger enforcement mechanisms, and if so, what form should they take?
- Is the current international framework, including the Paris Agreement and UNFCCC, sufficient, or does the Assembly need an entirely new approach to global climate governance?

- How can the international community build a climate framework that achieves meaningful compliance while respecting national sovereignty and differing economic circumstances?

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