

2<sup>nd</sup> BILMUN  
United Nations Conference  
Study Guide



UNFCCC

Using Renewable Energy to combat climate change

Winter 2023  
Kusadasi - Turkey



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## i. Introduction to the Committee

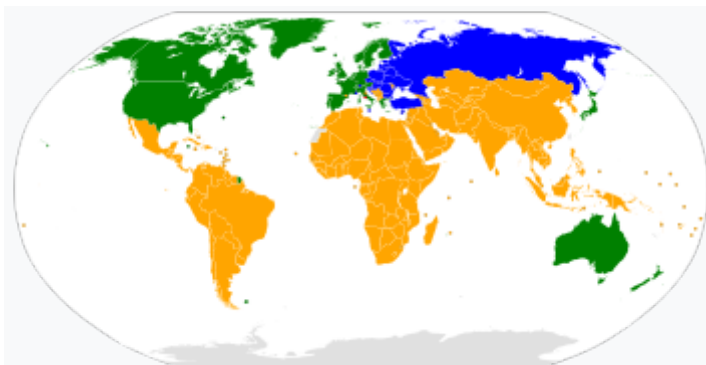
The **United Nations Framework Convention on Climate Change (UNFCCC)** is an international environmental treaty adopted on 9 May 1992 at the Earth Summit in Rio de Janeiro from 3 to 14 June 1992.

The main aims of then UNFCCC is to ensure that greenhouse gas concentrations in the atmosphere are at a level which does not allow dangerous human interference with the climate. The framework sets non-binding limits on emissions for countries and does not contain any enforcement tools. However, the framework discusses how specific international treaties, such as the Paris Agreement or the Kyoto Protocol, etc. can be further negotiated and implemented worldwide.

Member states to the convention meet annually in the Conference of the Parties (COP) to discuss problems of climate change and potential solutions.

Furthermore, the UNFCCC works to direct funds from developed industrialized nations and provide assistance to developing countries to combat climate change. The member states of the Convention are divided into:


- a) Developed Nations that include industrialized countries with high GDP (Gross Domestic Product)
- b) Developing Nations that have low GDP and require financial assistance to combat climate change



Parties to the UNFCCC

 Annex I and II parties



 Non-annex parties



## ii. Introduction to the Topic

### Key Terms and Definitions:

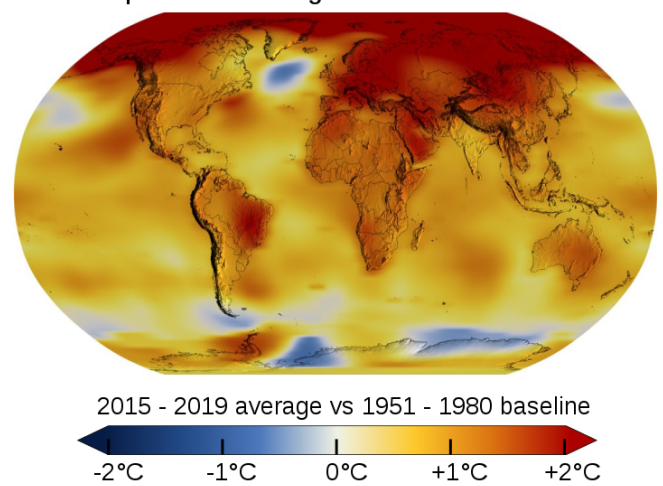
1. **Convention:** an agreement between states covering particular matters, especially one less formal than a treaty.
2. **Treaty:** a formally concluded and adopted agreement between states.
3. **Non-Binding:** a treaty which is not obligatory to be implemented by signatories (members who sign it)
4. **Binding:** a treaty which is obligatory to be implemented by signatories (members who sign it)
5. **Renewable Energy:** Energy collected or harvested from renewable sources (sources which are naturally restored) such as sunlight, wind, rain, tides, waves and geothermal heat. These sources have minimum harms to environment and are endless.
6. **Non-Renewable Energy Resources:** Energy that is collected or harvested from non-renewable sources (sources which are not naturally restored) such as crude oil, natural gas or coal. These sources are not endless and are decreasing at a fast pace.

## II. Introduction-Climate Change

Climate and Weather can be differentiated based on time. Weather is a study of conditions of the atmosphere for short time periods, whereas, Climate is a study of how atmosphere behaves over longer periods of time. Climate Change refers to the major changes in global temperatures, wind, humidity, rainfall patterns and other such things over an extended time period. The major effects of these rises in temperature and different weather patterns includes:

- 1). Rising Sea Levels leading to Floods
- 2). Droughts due to lack of rainfall
- 3). Extreme conditions such as hurricanes, forest fires becoming frequent
- 4). Melting of Glaciers

Temperature Change in the Last 51 Years





Meanwhile, Renewable Energy resources are being explored to combat climate change. These resources avoid burning pollutants such as dirty fossil fuels. They further use natural resources which are not depleting and can be re-used. Some of most widely used renewable energy resources includes:

Wind Energy

Solar Power

Biomass

Geothermal Energy

Hydropower

### **III. Statement of Problems**

The usage of non-renewable sources, such as: petroleum, coal and oil poses numerous risks and problems to the environment around us.

-Usage of explosives during oil drilling and digging for coal have an impact on the animals living within that area, both on land and water. The explosions can kill marine life and reduce biodiversity of an ecosystem (natural environment of different animals and plants).

-Drilling in oil rigs and mines releases toxic materials such as hydrocarbons and poisonous fluids of metals into the sea. This results in more marine pollution and destroys natural habitats.

-Oil Rigs also produce large amounts of toxic waste that fill landfill sites and contribute to land pollution.

-Burning of fossil fuels also releases harmful greenhouse gases into the environment. Greenhouse gases such as CO<sub>2</sub> (carbon dioxide), Methane and Water Vapor are important to protect humans from excessive UV radiation. However, the release of excess gases into the atmosphere prevents reflection of UV light, absorbing excessive heat and contributing to



## Global Warming

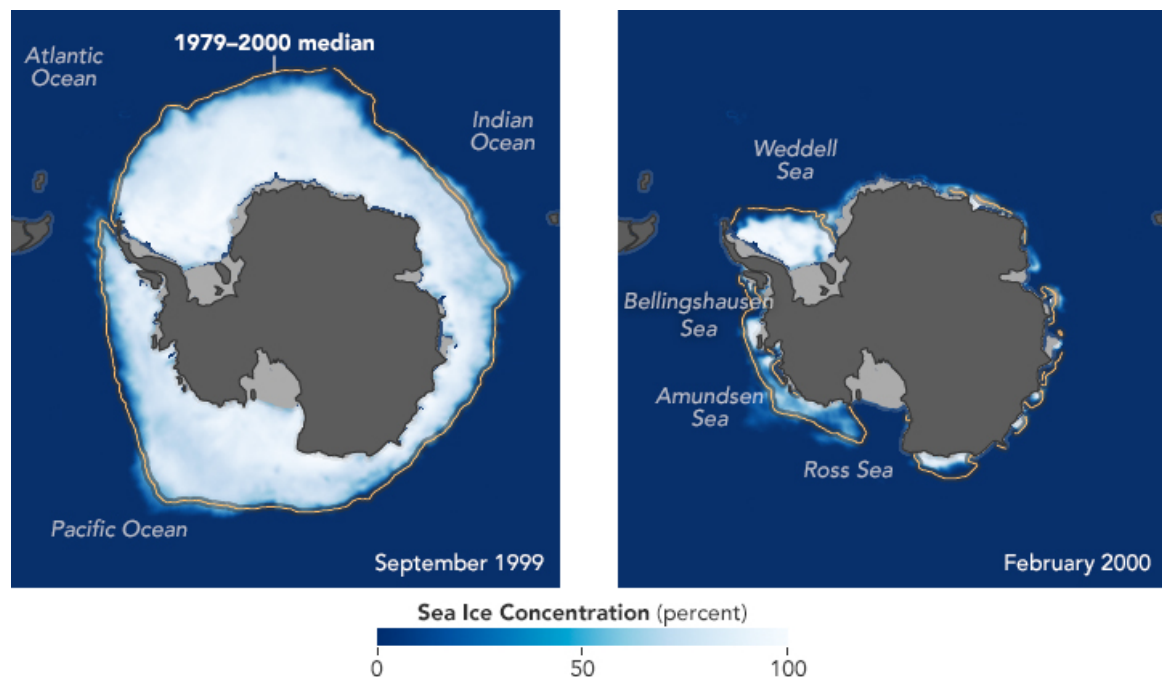
-Global Warming itself causes numerous irreversible harms to the environment:

### 1) Rising Temperatures:

Globally we are witnessing an increase in temperatures due to greenhouse gases absorbing much more UV radiation than is needed known as Greenhouse Effect. This is harmful in numerous ways as it results in intense heat waves, widespread crop destruction due to extreme heat. Furthermore, extreme heat has resulted in widespread droughts and wildfires in places like the Amazon Rainforest or Australian bushes much more common. Hence, it is not only contributing to habitat loss but also harmful for many animal species survival. Numerous countries based on agriculture are facing economic losses due to these rising temperatures as well.

### 2) Ice Loss:

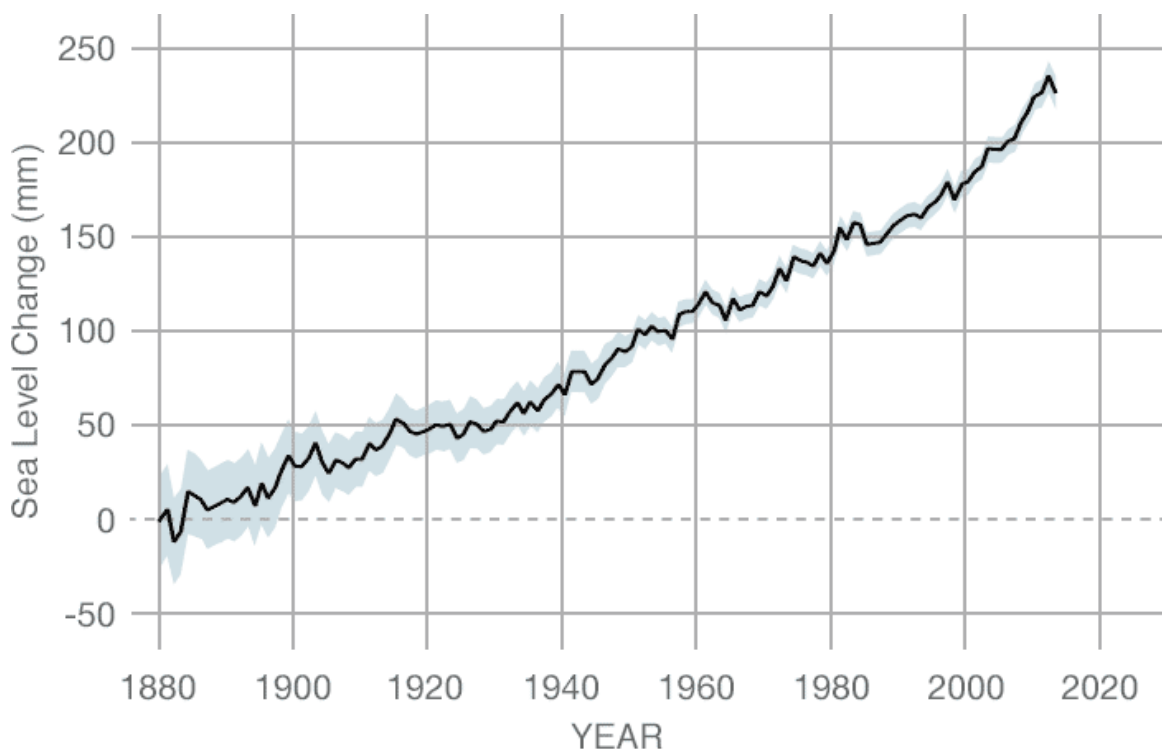
With rising temperatures due to greenhouse gases, glaciers such as those in Greenland, Antarctica and Himalayas are facing huge losses. The melting of glaciers is not only harmful for the environment of these Northern places but has a trickle down effect on low-lying regions. The melted ice adds to the already rising sea levels due to high temperatures, resulting in an increase in numbers of floods and torrents. Furthermore, polar communities such as polar bears and other biodiversity are harmed in the process.





### 3) Rising Sea Levels:

Expansion of oceans due to rising sea levels has accelerated the risk of flooding, especially in low-lying nations such as the Maldives or the Solomon Islands. These rising levels have dangerous predictions for these low-lying countries as they are at a risk of sinking if these levels continue. Furthermore, rising sea levels put in danger the shoreline communities of fishermen and affect infrastructure such as buildings, bridges and coastal machinery.



### 4) Extreme Conditions/ Droughts

A rapid increase in temperatures globally further increases the risk of droughts, floods and hurricanes occurring. Regions such as the Americas are also at a risk of experiencing severe droughts, wildfires, and famines resulting because of these droughts. Storms such as Hurricane Harvey have become more frequent due to these changing climate patterns as well. Droughts further risk food security and sustenance in developing countries in Asia and the Middle East.



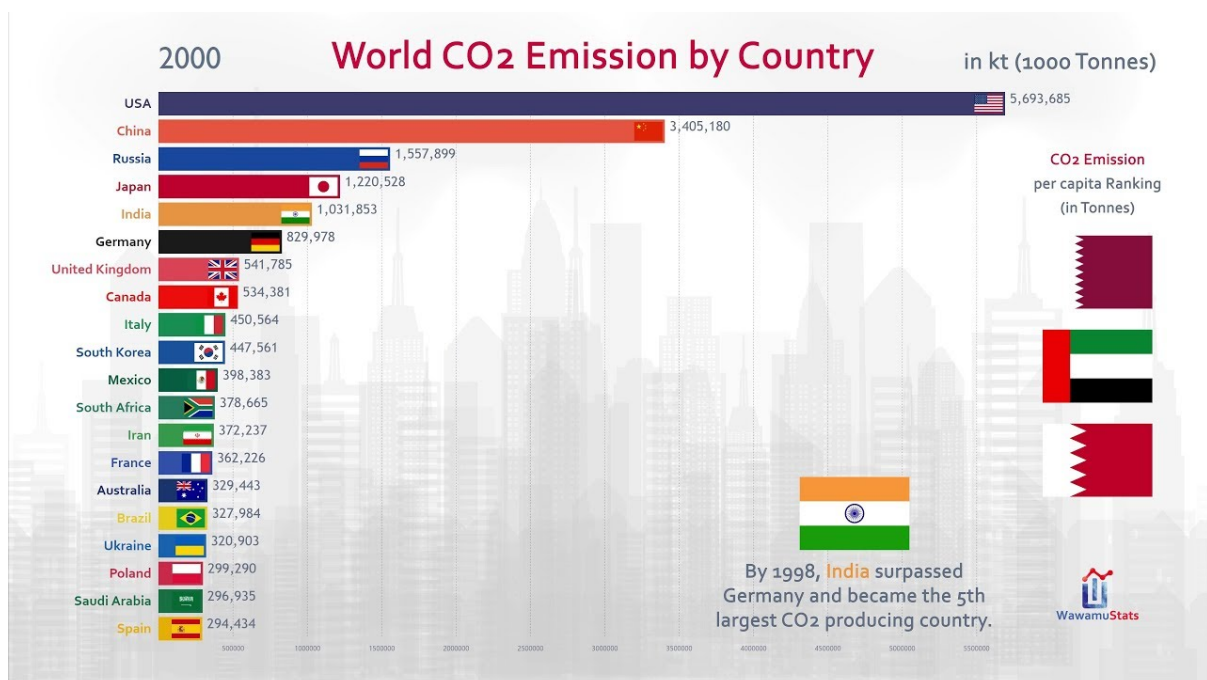
## Major Polluters and Sources of Emissions:

### 1. The United States

The United States continues to be the biggest polluter of greenhouse gases. The “Paris Targets” set by the USA were barely sufficient and Trump administration has already announced US withdrawal from the Paris Agreement by 2020. While the automobile industries in the United States continue to improve efficiency by shifting to more renewable energy resources and USA has the second largest investments in clean energy globally ( 55.5 Billion USD in 2019), there is still much to be done as it also continues to expand its CO<sub>2</sub> emissions and pollute the environment.

### 2. China

Chinese industries continue to pollute more than ever with a 2% increase in 2018 and no signs of halting. Chinese investment in clean energy is also seen to fall from \$76 billion US Dollars to \$29 billion US Dollars. China, too, continues to pollute, without paying attention to the targets set by the Paris Accord.







## IV. Past Actions and Potential Solutions

### The Kyoto Protocol

The **Kyoto Protocol** is an international treaty which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that calls on governments to reduce greenhouse gas emissions based on agreement that global warming is occurring due to mainly carbon dioxide emissions. There are currently 192 parties (Canada withdrew from the protocol, effective December 2012)<sup>[4]</sup> to the Protocol. It implemented the objective of the UNFCCC to reduce greenhouse effect caused by greenhouse gas concentrations in the atmosphere. It includes 6 greenhouse gases: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF<sub>6</sub>).

The Protocol is based on the idea that every country has a common goal with different responsibilities due to their economic conditions. Hence, like the UNFCCC it places responsibility more on developed countries as they have been the biggest polluters and are still the biggest polluters. Furthermore, these developed countries have the necessary resources such as money and infrastructure to shift from coal, oil and gas to renewable energy resources. The US has not ratified or adopted the Kyoto Protocol and Canada withdrew from the Protocol as well.

### The Paris Agreement

The **Paris Agreement** (French: *Accord de Paris*)<sup>[3]</sup> is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions reduction, adapting to climate change effects and funding renewable energy projects signed in 2016.

The Paris Agreement's long-term temperature goal is to make sure that global rise in temperature is below 2 °C above pre-industrial levels. The Agreement requires countries to plan and report regularly the methods it is using and efforts it is putting in reducing carbon dioxide emissions and shifting to greener, cleaner technology to reduce the effects of global warming. While there are no mandatory targets, it is important that each country goes beyond the targets it was supposed to meet through Kyoto Protocol.

### -Renewable Energy Sources and Types



**1). Solar energy** is energy which comes from the sun. This form of energy is endless as you can extract solar energy as long as you have sunlight available. Solar Energy is used in farms and in households worldwide for heating, hot water and energy. Solar Panels which are installed to absorb UV Light do not pollute the environment and have no harmful effects on global temperatures. Hence, solar energy is an easy, efficient and clean form of energy.

**2). Wind power:**

Used to extract or use wind as a source of energy, wind turbines are used to generate energy which is then used for electricity generation. The prices of wind technology are reducing as the usage is increasing and becoming more common in places like UK and Germany. However, the problems of noise pollution and harms to biodiversity are high with Wind turbines as the blades of turbines are harmful for birds and bats. Hence, construction of turbines must keep in mind these harms in the future. Furthermore, a lot of land is needed for the construction of wind power plants and in a lot of countries this land is not available as it is used in agricultural practices.





### 3). **Hydropower**

The force of flowing water and river currents is used to generate energy and Hydro-electric power for electricity generation. Hydropower depends on the Water Cycle and countries such as China, Brazil, Canada and the US are leading Hydropower producers. Hydropower is an endless form of energy as well, as water resources, rivers etc. can be used as many times as possible. However, construction of large dams and barrages on rivers is costly and the maintenance of these structures is also very expensive for developing countries such as Pakistan, Bangladesh, or Sri Lanka etc. Dam construction also takes numerous years and often funding is needed from numerous nations or organization such as the World Bank. Hydro-electric power is also harmful for people as construction of dams and barrages requires large-scale migration and destruction of houses and communities. This is harmful for many low-income households as they are force to relocate and are often not compensated.

**4). Geothermal** is energy generated using the heat within the earth's crust. This heat energy is then used to generate electricity used for various purposes such as cooking, heating and in appliances. However, for generating electricity, high temperatures are needed usually located close to volcanic regions.

**5). Biomass and bioenergy** are produced from burning biofuels such as solid waste, plant and animal waste material etc. However, biogas is primarily made up of Methane, a greenhouse gas and release of these harmful gases on burning is contributing to climate change as well. Hence, biomass although less harmful than coal and oil resources and more abundant/ easily available is harmful for environment as it releases greenhouse gases.



### **Questions A Resolution Must Answer (QARMA)**

1. How can major polluters such as the United States and China be convinced to meet the targets of global Climate Agreements?
2. What compensation can be provided, if any, to developing countries which cut down their emissions?
3. What are the ways through which green technology can be transferred to developing countries? How to fund projects?
4. What role can the UNFCCC play in ensuring that countries commit to cutting down greenhouse gas emissions?
5. Should UNFCCC efforts focus on dealing with effects of climate change or preventing climate change through Green technology?



### **Future Reading:**

[https://www.triglobalenergy.com/climate\\_change](https://www.triglobalenergy.com/climate_change)

<https://www.nationalgeographic.com/environment/energy/reference/renewable-energy/>

<https://www.trvst.world/inspiration/how-does-renewable-energy-reduce-climate-change/>

<https://www.nrdc.org/experts/noah-long/renewable-energy-key-fighting-climate-change>

<https://www.irena.org/climatechange/Renewable-Energy-Key-climate-solution>

<https://www.carbonbrief.org/explainer-six-ideas-to-limit-global-warming-with-solar-geoengineering>

<https://www.worldwildlife.org/magazine/issues/summer-2015/articles/importance-of-renewable-energy-in-the-fight-against-climate-change--3>

[https://www.ipcc.ch/site/assets/uploads/2018/03/SRREN\\_FD\\_SPM\\_final-1.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/SRREN_FD_SPM_final-1.pdf)