SEC-2 International Treaties on Climate Change

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The international community has been working on addressing global warming and climate change since the 1970s. Here is a chronological history of the international treaties and agreements that have been established to combat global warming and climate change:

United Nations Conference on the Human Environment (Stockholm, 1972):

The United Nations Conference on the Human Environment held in Stockholm, Sweden, in 1972 was the first international conference to focus on the environment. The conference recognized the need for international cooperation to address environmental issues, including climate change.

Vienna Convention for the Protection of the Ozone Layer (Vienna, 1985):

The Vienna Convention for the Protection of the Ozone Layer was adopted in 1985 to address the depletion of the ozone layer. The treaty established a framework for cooperation on measures to protect the ozone layer.

Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, 1987):

The Montreal Protocol was adopted in 1987 to address the depletion of the ozone layer caused by the use of substances like chlorofluorocarbons (CFCs). The treaty established a phased reduction in the production and consumption of these substances.

United Nations Framework Convention on Climate Change (UNFCCC): This agreement was signed in 1992 during the Earth Summit in Rio de Janeiro. The goal of the convention was to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The UNFCCC created a framework for international cooperation on climate change.

Kyoto Protocol: The Kyoto Protocol was created as an extension to the UNFCCC and was signed in 1997. The protocol required developed countries to reduce their greenhouse gas emissions by an average of 5.2% below their 1990 levels by 2012. The protocol was not ratified by the United States and was largely criticised for its lack of effectiveness in reducing emissions from developing countries.

Copenhagen Accord: The Copenhagen Accord was created in 2009 during the UNFCCC's 15th Conference of the Parties (COP15). The accord was not legally binding but set a goal to limit global temperature rise to below 2°C above pre-industrial levels. The accord also pledged $100 billion in annual climate financing for developing countries by 2020.

Paris Agreement: The Paris Agreement was created during the UNFCCC's 21st Conference of the Parties (COP21) in 2015. The agreement set a goal to limit global temperature rise to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. The agreement required all countries to submit nationally determined contributions (NDCs) outlining their

climate targets and plans for reducing greenhouse gas emissions. The agreement was signed by 195 countries and entered into force in November 2016.

Kigali Amendment to the Montreal Protocol: The Kigali Amendment was created in 2016 and was an extension to the Montreal Protocol, which aimed to phase out the use of ozone-depleting substances. The Kigali Amendment aimed to phase out the use of hydrofluorocarbons (HFCs), which are potent greenhouse gases used in refrigeration and air conditioning. The amendment was ratified by 102 countries and entered into force in January 2019.

Madrid Agreement: The Madrid Agreement was created during the UNFCCC's 25th Conference of the Parties (COP25) in 2019. The agreement aimed to increase the ambition of countries' NDCs and to develop a mechanism for international cooperation on climate change mitigation and adaptation. However, the conference failed to reach a consensus on many key issues and was largely criticized for its lack of progress.

Glasgow Climate Pact: The Glasgow Climate Pact was created during the UNFCCC's 26th Conference of the Parties (COP26) in 2021. The pact aimed to strengthen the implementation of the Paris Agreement and increase global ambition on climate change. The pact called for countries to submit updated and more ambitious NDCs, and set a goal to limit global temperature rise to 1.5°C above pre-industrial levels. The pact was signed by 197 countries.

UNFCCC and IPCC

The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty that was established in 1992 with the aim of stabilising greenhouse gas concentrations in the atmosphere and preventing dangerous anthropogenic interference with the climate system. The treaty recognizes the scientific consensus on the human causes of climate change and provides a framework for international cooperation on climate change issues.

The role and responsibilities of UNFCCC in combating global warming and climate change are as follows:

- ☐ Facilitating international cooperation:

The UNFCCC is responsible for facilitating international cooperation on climate change issues by bringing together governments, international organisations, and civil society groups to work towards common goals. The treaty provides a platform for negotiating and implementing agreements to reduce greenhouse gas emissions and promote sustainable development.

- ☐ Setting greenhouse gas emission reduction targets:

The UNFCCC is responsible for setting greenhouse gas emission reduction targets for developed countries through the Kyoto Protocol, which was adopted in 1997. Under the Kyoto Protocol, developed countries committed to reducing their greenhouse gas emissions by an average of 5.2% below 1990 levels by 2012.

- ☐ Negotiating and implementing international agreements:

The UNFCCC is responsible for negotiating and implementing international agreements on climate change, such as the Paris Agreement, which was adopted in 2015. The Paris Agreement is a legally binding agreement under which countries have committed to limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5°C.

☐ Supporting climate change adaptation and mitigation:

The UNFCCC is responsible for supporting countries in their efforts to adapt to the impacts of climate change and to mitigate their greenhouse gas emissions. It provides technical assistance and financial support to developing countries to help them develop and implement climate change policies and strategies.

☐ Reporting and review:

The UNFCCC is responsible for monitoring and reporting on the implementation of its agreements, including the submission of national greenhouse gas inventories and progress reports on climate change policies and strategies. The treaty also provides for a system of periodic reviews to assess the adequacy of countries' efforts to address climate change.

The Intergovernmental Panel on Climate Change (IPCC) is a scientific body established by the United Nations in 1988 to assess the science, risks, and impacts of climate change. Its role is to provide policymakers with timely and accurate information about the nature and extent of climate change and its potential impacts, as well as to identify strategies for mitigating and adapting to climate change.

The IPCC is made up of hundreds of climate scientists and experts from around the world who volunteer their time to participate in its work. The IPCC operates under the joint auspices of the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO).

The responsibilities of the IPCC include:

☐ Assessment of the science of climate change:

The IPCC is responsible for assessing the scientific basis of climate change, including the causes, magnitude, and projected impacts of climate change. It provides policymakers with up-to-date and reliable information on the state of the science of climate change, as well as on uncertainties and areas where further research is needed.

☐ Assessment of the impacts of climate change:

The IPCC also assesses the potential impacts of climate change on natural and human systems, including ecosystems, water resources, food production, and human health. It provides policymakers with information on the potential risks and vulnerabilities associated with climate change, as well as potential adaptation strategies.

☐ Assessment of mitigation strategies:

The IPCC also assesses strategies for mitigating climate change, including the reduction of greenhouse gas emissions and the deployment of technologies that can help to remove carbon dioxide from the atmosphere. It provides policymakers with information on the potential costs and benefits of different mitigation strategies, as well as the risks and uncertainties associated with each approach.

- ☐ Special reports and other activities:

In addition to its regular assessments, the IPCC also produces special reports on specific topics related to climate change, such as the impacts of climate change on oceans and the cryosphere. It also carries out other activities, such as capacity-building and outreach, to help inform policymakers and the public about the science of climate change.

The role and responsibilities of the IPCC are critical in informing policymakers about the science and risks of climate change and identifying strategies for addressing it. Policymakers rely on the IPCC's assessments to inform their decisions on climate change policy, including the development of national and international agreements and regulations aimed at reducing greenhouse gas emissions and promoting sustainable development.

Assessment Reports of IPCC

The Intergovernmental Panel on Climate Change (IPCC) has released a series of assessment reports since its establishment in 1988. These reports are based on the best available scientific, technical and socio-economic information on climate change and are intended to provide a comprehensive and objective assessment of the current state of knowledge on the topic.

Here is a summary of the assessment reports of IPCC till date:

First Assessment Report (FAR, 1990):

The first IPCC assessment report was released in 1990. It concluded that "emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases: carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface."

Second Assessment Report (SAR, 1995):

The second assessment report was published in 1995. It found that human activities, particularly the burning of fossil fuels and deforestation, were causing global warming and other climate changes. The report stated that the evidence of warming over the last century was unequivocal and that it was likely that human activities were the cause.

Third Assessment Report (TAR, 2001):

The third assessment report was released in 2001. It found that the Earth's surface temperature had risen by 0.6 ± 0.2°C (1.1 ± 0.4°F) during the 20th century, and that the 1990s were likely the warmest decade of the millennium. It also concluded that there was new and stronger evidence that most of the warming observed over the last 50 years was attributable to human activities.

Fourth Assessment Report (AR4, 2007):

The fourth assessment report was published in 2007. It concluded that global warming was unequivocal and that most of the warming observed over the previous 50 years was very likely caused by human activities. The report also found that global sea levels were rising and that there was a strong likelihood that this was due to human activities.

Fifth Assessment Report (AR5, 2014):

The fifth assessment report was released in 2014. It concluded that it is extremely likely (95-100% probability) that human activities, particularly emissions of greenhouse gases, have been the dominant cause of the observed warming since the mid-20th century. The report also found that global sea levels were rising at an increasing rate, and that it was virtually certain that human activities were the cause.

Special Report on Global Warming of 1.5°C (SR15, 2018):

The special report on global warming of 1.5°C was published in 2018. It found that limiting global warming to 1.5°C above pre-industrial levels would require rapid, far-reaching and unprecedented changes in all aspects of society. It also found that even if warming is limited to 1.5°C, there will still be significant impacts on ecosystems and human well-being.

Special Report on Climate Change and Land (SRCCL, 2019):

The special report on climate change and land was released in 2019. It found that climate change was already affecting land ecosystems and food production, and that these impacts would increase in the future. The report also highlighted the importance of land management in mitigating climate change.

Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC, 2019):

The special report on the ocean and cryosphere in a changing climate was published in 2019. It found that the ocean and cryosphere (frozen parts of the planet) were being significantly impacted by climate change, with consequences for ecosystems and human well-being. The report also highlighted the need for urgent action to reduce greenhouse gas emissions and adapt to the impacts of climate change.

Sixth Assessment Report (AR6, 2021):

AR6, released in August 2021, built upon the findings of previous reports and included more detailed assessments of regional impacts and the likelihood of extreme weather events. It found that human influence on the climate system is indisputable, with a clear and unequivocal human fingerprint on the increasing frequency and intensity of heat waves, heavy rainfall, and other extreme events. The report also highlighted the urgency of limiting global warming to 1.5°C, noting that it is still possible but would require rapid, far-reaching, and unprecedented changes in all aspects of society.

Overall, the IPCC assessment reports have been instrumental in informing global climate policy and driving action to address climate change. They have provided a scientific basis for international climate negotiations, including the UNFCCC and the Paris Agreement. The reports have also been

widely used by policymakers, researchers, and the public to inform decisions on climate action and adaptation.