A COMPARATIVE ANALYSIS OF CLIMATE POLICIES OF INDIA, SOUTH AFRICA, GERMANY, AND THE UNITED STATES

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ABSTRACT

A COMPARATIVE ANALYSIS OF CLIMATE POLICIES OF INDIA, SOUTH AFRICA, GERMANY, AND THE UNITED STATES

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Climate change represents one of the most pressing challenges in the modern era, requiring a unified, equitable global response. This dissertation offers a comparative analysis of the climate change approaches employed by four key countries—India, South Africa, Germany, and the United States—each embodying a unique economic, geographical, and political context. This dissertation investigates the similarities and differences in climate finance, technology transfer, and capacity building, and Nationally Determined Contributions (NDCs) by reviewing these countries' UNFCCC submissions. The dissertation also investigates the climate-related issues that these nations brought up during UNFCCC negotiations, which took place from COP 1 to COP 28, providing insights into their negotiation positions and strategies for resolving conflicts between national interests and international climate obligations. The findings demonstrate the intricate dynamics of international climate governance, where substantial differences in national priorities, historical responsibilities, and economic capacities influence each country's contributions to global climate action. The thesis highlights that effective climate governance necessitates not only formal approaches of collaboration but also a commitment to

resolving power inequalities and underlying systemic challenges that define parties' participation in global climate action. Hence, it is crucial to focus on institutional processes to address both new and existing inequities and maintain the mutually beneficial nature of cooperative frameworks. Consequently, this dissertation compares these four countries comprehensively, enhancing the understanding of obstacles and opportunities in global climate negotiations and underscoring the necessity of customized, adaptive, and collaborative solutions to tackle the climate crisis.

Keywords: UNFCCC, climate change, India, South Africa, Germany, the United States

ÖZ

HİNDİSTAN, GÜNEY AFRİKA, ALMANYA VE ABD'NİN İKLİM POLİTİKALARININ KARŞILAŞTIRMALI ANALİZİ

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İklim değişikliği, modern çağın en acil sorunlarından birini temsil etmekte ve eşitlikçi bir küresel müdahale gerektirmektedir. Bu tez, her biri kendine özgü ekonomik, coğrafi ve siyasi bağlamlara sahip dört önemli ülkenin (Hindistan, Güney Afrika, Almanya ve Amerika Birleşik Devletleri) iklim değişikliğine yaklaşımlarının karşılaştırmalı bir analizini sunmaktadır. Bu tez, söz konusu ülkelerin BMİDÇS başvurularını inceleyerek iklim finansmanı, teknoloji transferi ve kapasite geliştirme ile Ulusal Olarak Belirlenmiş Katkılar (NDC'ler) arasındaki benzerlik ve farklılıkları araştırmaktadır. Tez aynı zamanda bu ülkelerin COP 1'den COP 28'e kadar gerçekleşen BMİDÇS müzakereleri sırasında gündeme getirdikleri iklimle ilgili konuları araştırarak müzakere pozisyonları ve ulusal çıkarlar ile uluslararası iklim yükümlülükleri arasındaki çatışmaları çözme stratejileri hakkında içgörü sağlamaktadır. Bulgular, ulusal öncelikler, tarihsel sorumluluklar ve ekonomik kapasitelerdeki önemli farklılıkların her ülkenin küresel iklim eylemine katkılarını etkilediği uluslararası iklim yönetişiminin karmaşık dinamiklerini ortaya koymaktadır. Tez, etkili iklim yönetişiminin sadece resmi iş birliği yaklaşımlarını değil, aynı zamanda tarafların küresel iklim eylemine katılımını tanımlayan güç

eşitsizliklerini ve altta yatan sistemik zorlukları çözme kararlılığını da gerektirdiğini vurgulamaktadır. Bu nedenle hem yeni hem de mevcut eşitsizlikleri ele almak ve iş birliği çerçevelerinin karşılıklı fayda sağlayan doğasını korumak için kurumsal süreçlere odaklanmak çok önemlidir. Sonuç olarak bu tez, bu dört ülkeyi kapsamlı bir şekilde karşılaştırarak küresel iklim müzakerelerindeki engellerin ve fırsatların anlaşılmasını sağlamakta ve iklim kriziyle mücadele etmek için özelleştirilmiş, uyarlanabilir ve iş birliğine dayalı çözümlerin gerekliliğinin altını çizmektedir.

Anahtar Kelimeler: BMİDÇS, iklim değişikliği, Hindistan, Güney Afrika, Almanya, Amerika Birleşik Devletleri

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LIST OF ABBREVIATIONS

ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AF	Adaptation Fund
AFB	Adaptation Fund Board
AIJ	Activities Implemented Jointly
APA	Ad Hoc Working Group on the Paris Agreement
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
AWG-LCA	Ad Hoc Working Group on Long-term Cooperative Action under the Convention
BR	Biennial Reports
BUR	Biennial Update Reports
CBDR	Common But Differentiated Responsibilities
CDM	Clean Development Mechanism
CGE	Consultative Group of Experts
CMA	The Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement
CMP	The Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol
COP	Conference of Parties
CTCN	Climate Technology Centre and Network
EU	European Union
GCF	Gren Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GW	Gigawatt
INDC	Intended Nationally Determined Contribution

IPCC	Intergovernmental Panel on Climate Change
IPR	Intellectual Property Rights
JI	Joint Implementation
LDCF	Least Developed Countries Fund
LDCs	Least Developed Countries
LEG	Least Developed Countries Expert Group
LT-LEDS	Long-Term Low Greenhouse Gas Emission Development Strategies
MDB	Multilateral Development Banks
MRV	Measurement, Reporting, Verification
MtCO2	Million Tonnes Carbon Dioxide Equivalent
MW	Megawatt
NAP	National Adaptation Plan
NAPA	National Adaptation Programs of Action
NDC	Nationally Determined Contribution
NGO	Non-governmental Organization
OECD	Organization for Economic Co-operation and Development
QELRO	Quantified Emission Limitation or Reduction Objective
R&D	Research and Development
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
SBI	Subsidiary Body for Implementation
SBs	Subsidiary Bodies
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCCF	Special Climate Change Fund
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WIM	Warsaw International Mechanism for Loss and Damage

CHAPTER 1

INTRODUCTION

The urgent need to address climate change has become increasingly evident in recent years as the world grapples with rising global temperatures, extreme weather events, and escalating environmental degradation. The UNFCCC has evolved as the main platform for countries to negotiate and collaborate on climate change mitigation and adaptation strategies. However, adequate and equitable climate action requires a deep understanding of countries' diverse approaches and policies, particularly those with significant economic, political, and environmental influence. In this realm, India, South Africa, Germany, and the United States represent diverse geographies, economic development levels, and political landscapes, making them essential case studies for comparative analysis.

This dissertation investigates the climate change policies and negotiating positions of four key countries—India, South Africa, Germany, and the United States—whose different geographical, economic, and political settings provide a convincing argument for comparative evaluation. As key actors in international climate discussions, the United States and Germany have communicated their contributions in climate finance, technology transfer, and capacity building. At the same time, India and South Africa have presented their needs in the same areas in their submitted documents to the UNFCCC. These elements are related to Articles 9, 10, and 11 of the Paris Agreement, which underscores climate finance, technology transfer, and capacity building as essential mechanisms to assist nations in achieving their climate objectives and fostering equitable global climate action.[1]

[1] "Paris Agreement". United Nations. April 22, 2016. Retrieved from https://unfccc.int/sites/default/files/english_paris_agreement.pdf , pp.13-16.

With an emphasis on the post-Paris period, this thesis investigates how these countries' commitments and objectives have changed since the Paris Agreement, which signaled the start of a new era in global climate action. This period is marked by transitioning to more adaptable, nationally determined commitments, departing from rigid targets, and advancing towards frameworks prioritizing collaboration and assistance across countries. Hence, this study focuses on the post-Paris Agreement context through the latest submissions of selected countries to the UNFCCC, offering insights into the alignment or divergence of these nations' policies and strategies. This emphasis underscores the ongoing significance of climate finance, technology transfer, and capacity building in international climate negotiations, while also revealing the challenges and achievements in executing these mechanisms to assist various national contexts within the global climate framework.

Moreover, understanding the positions and actions of these countries throughout the UNFCCC COP negotiations offers valuable insights into the more general challenges of achieving consensus in international climate diplomacy and approaches of selected countries to the issues of climate change. As the negotiations progressed, countries expanded the range of topics they were considering. Climate change was viewed as an environmental concern that necessitated emission reductions to mitigate future effects. As new issues have been brought to the formal negotiations throughout time, adaptation, technology transfer, and even the consequences of climate policy itself are now on the agendas of climate negotiations.[2] In this realm, through a critical analysis of the latest NDCs, LT-LEDS, BRs, and BURs, as well as negotiating stances from COP 1 to COP 28, this thesis aims to highlight the selected countries' approaches to climate change.

1.1. Scope and Objective

The scope of this thesis encompasses a comprehensive examination of the climate change policies, perspectives, arguments, and positions adopted by India, South Africa, Germany, and the United States within the framework of the UNFCCC

[2] Jen Iris Allan and Rishikesh Ram Bhandary. "What's on the agenda? UN Climate Change Negotiation Agendas Since 1995." *Climate Policy* 24, no:2 (2024), p.154.

meetings. Climate change has recently emerged as one of the most pressing global challenges, necessitating a coordinated international response. This research sheds light on how these four countries, representing diverse geographical regions, economic development levels, and political landscapes, approach this critical issue. The primary objective of this thesis is to conduct a comparative analysis of the climate change policies, strategies, necessities, and contributions of India, South Africa, Germany, and the United States, focusing on their latest submissions to the UNFCCC. By focusing on the institutional frameworks, legal frameworks, and policy instruments, the dissertation aims to put forward the climate approaches and priorities of the selected countries.

Using neoliberal institutionalism as a theoretical framework, this thesis explores how international organizations, such as the UNFCCC, offer a structured framework that allows nations to interact despite competing national interests. The UNFCCC's multilateral mechanisms have been effective in identifying the issues of climate change while establishing a framework of rules to address them.[3] Neoliberal institutionalism provides a focus on the function of institutions in promoting collaboration, fostering trust, and providing guidelines to address issues of collective action, so it provides important insights into why nations participate in or resist climate action. Therefore, this thesis seeks to illuminate the dynamics that shape global climate governance and the opportunities for attaining significant progress through institutionalized engagement.

The country comparisons are done through NDCs and the three mechanisms mentioned in BRs and BURs: climate finance, technology transfer, and capacity building. This thesis explores these three main mechanisms since they are stated clearly in the Paris Agreement. In this realm, this thesis examines the evolution of commitments and necessities communicated by these nations in the post-Paris era. In other words, the latest submissions of BRs, BURs, and NDCs of the selected countries are considered. Therefore, this thesis explores how NDCs, climate finance, technology transfer, and capacity building support or deadlocking climate governance through a comparative lens.

[3] Franz Baumann. "Multilateral Climate Governance: Its Promise and Limits." *Global Governance: A Review of Multilateralism and International Organizations* 30, no. 2 (2024), p.250.

Article 9 of the Paris Agreement emphasizes climate finance as a crucial instrument for meeting both adaptation and mitigation demand by mandating developed nations to provide financial assistance to developing states. Article 10, which addresses technology transfer, emphasizes the importance of promoting innovation and distributing sustainable technologies around the world. Finally, Article 11 on capacity building highlights the significance of bolstering institutional, technical, and policy-related capacities.[4] Together, these three mechanisms along with NDCs serve as a framework for international climate action for nations with varying priorities and development levels.

Moreover, this thesis seeks to analyze the arguments and perspectives of India, South Africa, Germany, and the United States in the UNFCCC meetings. The research will explore the selected countries' approaches to elucidate their positions in international climate change negotiations. In addition, the coalitions that the selected countries belong to are also included in the dissertation to depict a complete picture of the UNFCCC negotiations. Ultimately, this thesis aims to provide insights into selected countries regarding their approaches to the issues of climate change and their positions in the UNFCCC meetings. The findings can inform policymakers, researchers, and relevant stakeholders about the key areas of the selected countries' climate policy approaches, the necessities of policy implementation, and potential avenues for collaboration. By synthesizing the experiences of these diverse countries, this thesis can contribute to the broader understanding of international climate governance and reveal initiatives that can enhance global climate action.

This thesis primarily emphasizes climate mitigation over adaptation, since mitigation issues have dominated the climate agendas.[5] This emphasis underscores the necessity of tackling the fundamental causes of climate change through the examination of measures that mitigate GHG emissions and facilitate the transition to low-carbon economies. While adaptation is critical in supporting countries to manage and reduce the effects of climate change, this thesis will limit its discussion of adaptation to the amount required to contextualize mitigation measures. Hence, this thesis focuses on

[4] "Paris Agreement", pp.13-16.

[5] Allan and Bhandary, p.161.

mitigation, assessing how specific countries contribute to global emissions reductions through policies, financial commitments, and technological innovations, thus aiding the primary objective of restricting global temperature increase as stipulated in the Paris Agreement.

In addition, this thesis takes a governmental approach, examining the policies, strategies, and contributions of national governments within the context of the UNFCCC. While being aware of the critical roles that the private sector and non-governmental organizations (NGOs) play in combating climate change, this research does not include these actors. Hence, this study focuses on state-led initiatives and interactions to elucidate the governmental aspect of global climate governance.

1.2. Main Research Question

The main research question of the thesis is the following: How do India, South Africa, Germany, and the United States approach climate change in the submitted documents to the UNFCCC, and what have these countries discussed in the UNFCCC meetings over time?

The research seeks to delve into the following sub-questions:

- How do selected countries formulate climate change issues in the submitted documents to the UNFCCC?
- What are the similarities and differences regarding NDCs, finance, capacity building, and technology transfer?
- How have selected countries and their coalitions negotiated climate issues in the UNFCCC meetings from 1995 to 2023?
- What factors contribute to or hinder the fulfillment of these climate commitments in each country?

Through a systematic comparative analysis, this research aims to provide a nuanced understanding of the climate policies, approaches and positions in the UNFCCC meetings, shedding light on their contributions to international climate governance and their potential for collaboration and collective action in addressing climate change.

1.3. Literature Review

One of the major issues of today is the urgent problem of climate change, which calls for widespread international collaboration and creative policy responses. The direction of climate action is greatly influenced by climate change governance, climate change negotiations, and climate change policymaking. Hence, this literature review investigates a wide range of academic publications that offer insight into the complex dynamics, challenges, and opportunities within the field of climate action. Ultimately, this literature review, which draws on these incisive investigations, endeavors to offer a synthesized knowledge of the subject of climate action.

Some scholars in literature investigate the challenges of climate change governance. They tried to find alternative institutional and policy structures to control climate change successfully. Hence, these authors emphasize the value of domestic institutional planning, international collaboration, transparency, and accountability in climate change governance.

The article, named "International Cooperative Initiatives and the United Nations Framework Convention on Climate Change" by Fatemeh Bakhtiari, explores international cooperation initiatives (ICIs) to reduce GHG emissions. The study focuses on three primary problems: the lack of coordination across ICIs, overlap with UNFCCC-related initiatives, and a lack of transparent monitoring and reporting systems. According to the author, the United Nations Environment Programme could assist in coordinating ICIs and advancing openness. She also highlights how crucial it is for ICIs to have open monitoring systems and guarantee cost-effectiveness in their attempts to minimize climate change.

Moreover, the article discusses the research on the potential for ICIs to reduce emissions. It concludes that there is little room for ICI emission reductions. While cities and regional programs have the potential to reduce emissions significantly, most initiatives have not produced a meaningful part of the emission reductions they had committed. Additionally, there are similarities between ICIs and UNFCCC-mandated emissions reduction measures. Overall, the article argues that while ICIs

can help mitigate climate change, there are still issues that need to be resolved in terms of coordination, openness, and efficiency.[6]

The article by Navroz K. Dubash called "Varieties of climate governance: the Emergence and Functioning of Climate Institutions" examines the development and effects of climate institutions in various nations. The author argues that while global climate cooperation and policies have received much attention, domestic institutional designs that are essential for efficient climate governance have received less attention. The author offers a model based on country case studies that explains how national political institutions, external forces, and bureaucratic structures interact to give rise to climate institutions. These are opportunistic institutions, unstable sectoral institutions, unstable climate institutions, and strategic climate institutions. The author also investigates the relationships between politics and institutions in each category and the implications for tackling climate governance challenges. According to the research, the effectiveness of current climate institutions has only had a minor impact on tackling climate governance issues. These institutions have, however, also played a significant part in shaping climate politics and results. Overall, the research emphasizes how crucial it is to realize domestic political circumstances and institutional dynamics in order to implement successful climate governance. In the end, Dubash underlines the necessity to shift the emphasis from international collaboration and policy to establishing and functioning domestic climate mechanisms.[7]

In his article called "Institutions for a World of Climate Injustice", Robert O. Keohane draws attention to the fact that there is climate injustice, whereby GHG emissions from wealthy countries cause significant harm to populations in developing nations who have not advantaged from prior emissions. The article highlights two hypotheses that lead to unfavorable climate outcomes and injustice: the notion that investments in climate mitigation should be made within the legal jurisdiction of investing parties and the notion that IPR protections should be

[6] Fatemeh Bakhtiari. "International Cooperative Initiatives and the United Nations Framework Convention on Climate Change" *Climate Policy* 18, no:5 (2018), pp. 655-661.

[7] Navroz K. Dubash. "Varieties of Climate Governance: The Emergence and Functioning of Climate Institutions" *Environmental Politics* 30, sup1 (2021), pp.1-20.

standardized worldwide. In this realm, the author adopts an incrementalist approach, asserting that incremental institutional changes and minor initiatives can help address climate injustice even if it does not completely resolve the issue. Keohane stresses the significance of altering default policies and creating suitable institutions in order to enhance climate outcomes and lessen climate injustice. These organizations would improve policy continuity and make collaboration more practical, promoting long-term investments in carbon reduction. Therefore, he suggests creating an Institute for Climate Finance, allowing wealthy nations to use offset agreements to pay for carbon reductions in developing nations. The author also proposes the establishment of a Climate Innovation Institute to enable the transfer of new low- or zero-emission energy technology to the developing nations.[8]

The article by Hayley Stevenson named "Reforming Global Climate Governance in an Age of Bullshit" draws attention to a serious lack of ecological integrity in current climate change governance, which is defined by a discrepancy between statements and actions. In this context, the idea of "bullshit" is presented as a means of capturing the contradictions noticed in global climate governance. The article makes reform recommendations, focusing on the climate regime's accountability structures, to improve the integrity of global climate governance and reduce the negative impacts of bullshit. The author also presents instances of bullshit in global climate governance, including inconsistencies between state-based climate governance policies and actions. In the end, the author suggests measures to reform and re-globalize the climate regime, exposing it to wider public attention and accountability in order to improve integrity and reduce the damaging impacts of bullshit.[9]

The article by Joshua Philipp Elsässer, Thomas Hickmann, Sikina Jinnah, Sebastian Oberthür, and Thijs Van de Graaf named "Institutional Interplay in Global Environmental Governance: Lessons Learned and Future Research" examines the idea of institutional interaction in international environmental regulation. The authors

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[8] Robert O. Keohane. "Institutions for a World of Climate Injustice*" Fudan Journal of the Humanities and Social Sciences* 12 (2019), pp.292-306.

[9] Hayley Stevenson. "Reforming Global Climate Governance in an Age of Bullshit" *Globalizations* 18, no:1 (2021), pp.86-98.

conduct a survey of the literature on institutional interaction, concentrating on three major theme groupings: fragmentation and institutional complexity, pathways and impacts of interaction, and forms and degrees of interaction. They assert that despite great progress in comprehending how intergovernmental institutions interact, more knowledge is required of the expanding interconnections between intergovernmental and transnational organizations. The authors explore how interactions can take place at the same level of social organization (horizontal interplay) or across multiple levels and scales (vertical interplay) in terms of types and dimensions of interplay. Ultimately, they underline the significance of researching the understudied interaction between intergovernmental and transnational institutions. These authors also address the causes and consequences of interaction. As major factors, they point to the degradation of the environment and the engagement of numerous individuals. They indicate that interactions can have both favorable and unfavorable outcomes, such as conflict or institution-to-institution collaboration. Hence, they highlight the importance of understanding the causal mechanisms and results of interaction. Overall, this article thoroughly analyzes institutional interaction in global environmental governance.[10]

Scholars like Fatemeh Bakhtiari, Navroz K. Dubash, and Robert O. Keohane offer valuable perspectives on the complexities of climate governance but frequently neglect the fundamental divergences stemming from national interests and economic inequalities. Bakhtiari's examination of ICIs highlights concerns regarding coordination and transparency; however, her emphasis is on institutional enhancement rather than tackling the structural disparities between developed and developing nations. Likewise, Dubash’s research on domestic climate institutions recognizes the influence of national politics and institutional dynamics; however, it inadequately addresses the challenges that emerge when national interests conflict with global climate objectives, especially in instances such as India and South Africa. Keohane’s examination of climate injustice elucidates the disparities in global climate initiatives, especially between developed and developing nations, reflecting

[10] Joshua Philipp Elsässer et al. "Institutional Interplay in Global Environmental Governance: Lessons Learned and Future Research" *International Environmental Agreements: Politics, Law and Economics* 22, no:2 (2022), pp.373-386.

the contrasting positions of countries like Germany and the United States in relation to India and South Africa.

Moreover, Hayley Stevenson's criticism of the "bullshit" in global climate governance underscores the inconsistencies between climate pledges and practical actions, thereby exacerbating the challenges in formulating cohesive global climate strategies. The research conducted by Joshua Philipp Elsässer, Thomas Hickmann, Sikina Jinnah, Sebastian Oberthür, and Thijs Van de Graaf on institutional interactions in global environmental governance elucidates the complicated relations between international and transnational institutions, a matter that becomes increasingly complex when accounting for the diverse needs and capabilities of nations participating in climate negotiations. Although these scholars offer significant insights into the institutional and collaborative dimensions of climate governance, the argument of the thesis extends the existing findings by highlighting the imperative of addressing the underlying systemic disparities and national priorities that impede global consensus on climate action.

Besides scholars who investigate climate change governance, others analyze climate change negotiations. The authors look at the nature of the delegations, negotiation experiences, issues discussed in the meetings, alternatives to COP meetings, reasons for stalemate in climate negotiations, multilateral procedures, and contributions of mutual learning. Ultimately, the authors emphasize that climate negotiations benefit developed states; the key drivers of large and effective delegations are resources and interests and the necessity of an equitable and inclusive approach to capacity building. They also underline the incorporation of novel approaches and viewpoints to develop trust and promote climate action, suggest an alternative approach known as unilateral action supported by public authorities, and highlight the urgent need to address emissions reductions and the need for more balance among the topics raised throughout the discussions. Moreover, the authors emphasize the significance of linking scientific evidence with international climate change efforts, underline the need for immediate action for adaptation and mitigation, and stress the need for equal participation in climate change negotiations.

The article by Danielle Falzon called “The Ideal Delegation: How Institutional Privilege Silences “Developing” Nations in the UN Climate Negotiations” investigates how institutional arrangements that support normative goals of national development have an impact on the differences between country delegations in the UN climate negotiations, affecting delegation experiences and exposing institutional inequality and privilege. The author spent over 200 hours observing five UNFCCC sessions and conducting 30 interviews. She defined the ideal delegation as large, English-speaking, well-equipped with Western scientific and legal skills, and capable of sending the same negotiators year after year. This institutional inequity and privilege in the UNFCCC develop global hierarchies. Hence, the experiences of national delegates and negotiators demonstrate these systemic inequities. The author argues that the UN climate discussions benefit developed states since they are able to send an ideal delegation that corresponds with normative aspirations of national development while developing nations face challenges in sending an ideal delegation that serves these development standards. In the end, she asserts that such structures are problematic in the context of international climate change decision-making, and it need to be transformed.[11]

The article of Ayşe Kaya and Lynne Steuerle Schofield called “Which Countries Send More Delegates to Climate Change Conferences? Analysis of UNFCCC COPs, 1995–2015” investigates the factors influencing the size of national delegations from 1995 to 2015. The article shows how numerous factors, such as a nation's resources, pro-emissions interest group politics, and climate change susceptibility, affect the number of national delegations at climate change conferences. In order to explain the variation in delegation size, the article looks at both issue-specific variables (such as pro-emission interest group politics, civil society impact, and green bureaucratic politics) and non-issue-specific variables (such as a country's level of democracy, regulatory capability, and incumbent ideology). The authors find out that nations with larger delegations are better able to prepare for and present their viewpoints during discussions. Hence, larger delegations are advantageous for taking part in several negotiations and side activities because of the intensity and simultaneity of

[11] Danielle Falzon. "The Ideal Delegation: How Institutional Privilege Silences “Developing” Nations in the UN Climate Negotiations" *Social Problems* 70, no:1 (2023), pp.187-200.

climate change meetings. In the end, the authors argue that the key drivers of bigger delegations are resources and interests rather than a country's degree of involvement in global environmental governance.[12]

The article by Christine Wamsler, Niko Schäpke, Carolin Fraude, Dorota Stasiak, Thomas Bruhn, Mark Lawrence, Heike Schroeder, Luis Mundaca named "Enabling New Mindsets and Transformative Skills for Negotiating and Activating Climate Action: Lessons From UNFCCC Conferences of the Parties" examines decision-makers' perceptions of the necessity for a new mentality and personal characteristics that might support negotiating and enacting climate action, as well as elements that could facilitate such a mindset shift. Data were gathered using surveys, social media interactions, and semi-structured interviews with COP participants during interactive workshops at COP 25. The study emphasizes the inefficiency of the present climate negotiating culture, which is characterized as being power-laden, top-down, instrumental, limited-minded, and lacking in a feeling of urgency and action-taking. As a result, the article strongly emphasizes the necessity for decision-makers to adopt a new attitude and the significance of young participation and social climate movements in bringing about change. The authors assert that the incorporation of novel approaches and viewpoints, including scientific, local, and indigenous knowledge systems, is required to develop trust and promote climate action. The article concludes by urging the development of abilities that support relational forms of knowing, being, and doing, as well as the construction of structures and support mechanisms for these modes.[13]

The article called "Is the Annual UNFCCC COP the Only Game in Town? Unilateral Action for Technology Diffusion and Climate Partnerships" by Urs Steiner Brandt and Gert Tinggaard Svendsen investigates alternatives for UNFCCC COP conferences. The article stated that consensus was necessary for the UNFCCC

[12] Ayşe Kaya and Lynne Steuerle Schofield. "Which Countries Send More Delegates to Climate Change Conferences? Analysis of UNFCCC COPs, 1995–2015." *Foreign Policy Analysis* 16, no:3 (2020), pp.478-489.

[13] Christine Wamsler et al. "Enabling New Mindsets and Transformative Skills for Negotiating and Activating Climate Action: Lessons from UNFCCC Conferences of The Parties" *Environmental Science & Policy* 112 (2020), pp.227-234.

discussions, and it was questioned whether these institutions would produce successful climate policies. There are still many unresolved concerns, and disagreements are still prevalent at the COP conferences, so not enough development has occurred yet. An annual UNFCCC COP is part of a complicated environment since national political narratives, free riders, bureaucratic and political self-interest, special interest groups, and other factors make international climate discussions challenging. In this realm, the authors argue that there is an alternative approach known as unilateral action supported by public authorities.[14]

This approach demonstrates the circumstances under which expensive and unilateral technological developments may be exported to other nations, for instance, to the point where the parties concerned would rationally choose to take such action, opening the way for using such best practice models in the future. The article points out that the European External Action Service (EEAS) might serve as one illustration of how such unilateral action is practicable. Ultimately, the authors assert that well-planned unilateral acts by the EEAS and other public bodies could help attain goal levels like those outlined in the Paris Agreement.

The article by Jen Iris Allan and Rishikesh Ram Bhandary called “What’s on the Agenda? UN Climate Change Negotiation Agendas Since 1995” summarizes the findings of a study that built a Climate Negotiations Database to assess the progress of climate change discussions under the UNFCCC. The research seeks to comprehend the topics raised in the discussions as well as how the amount of effort has evolved over time. The database contains agendas for every COP starting in 1995 and going all the way up to 2019, with categories for the themes of the negotiations' issues. The study indicates that although the amount of effort involved in the discussions has risen over time, this does not always mean that new regulations or agreements have been negotiated. Transparency and mitigation problems regularly dominated the agendas, demonstrating a lack of topical balance.[15]

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[14] Urs Steiner Brandt and Gert Tinggaard Svendsen. "Is the Annual UNFCCC COP the Only Game in Town?: Unilateral Action for Technology Diffusion and Climate Partnerships" *Technological Forecasting and Social Change* 183 (2022), pp.1-8.

[15] Allan and Bhandary, p.154.

Moreover, Allan and Bhandary note developments in the negotiation's priorities. The top two topics raised in the negotiations were mitigation and transparency. Since 2007, the topics mentioned have broadened to include more than only lowering emissions. There is, however, a misalignment between the recurrence of mitigation sub-items and substantive results that might result in carbon reductions. While forests and market mechanisms are frequently mentioned as mitigation sub-items, the main task of lowering emissions from industrial sources is less emphasized. The article also emphasizes how the number of agenda sub-items increased significantly and has remained reasonably high throughout the discussions for the Paris Agreement. According to the authors, the Paris Agreement changed the proportion of issues considered and demonstrated a reduction in mitigation-related concerns. In general, the study offers an empirical foundation for comprehending the development of international climate governance. It highlights the urgent need to address emissions reductions from industrial sources and highlights the need for more balance among the topics raised throughout the discussions.[16]

In their article named "Why Do Climate Change Negotiations Stall? Scientific Evidence and Solutions for Some Structural Problem", Ulrich J. Frey and Jazmin Burgess analyze the reasons why climate change discussions stalemate and provide scientific support and alternatives for several structural issues. Climate change discussions, as performed through UNFCCC COP consultations, have been prolonged, leading to disappointment with the process. Scientific studies in this area have uncovered several issues that need to be resolved in these meetings. In this realm, the article examines three main issues: balancing conflicting interests in a situation involving global public goods, enhancing consensus decision-making, and creating institutions to carry out decisions. The authors argue that the main components to solving these issues are improving communication, trust, fairness, and implementing penalties. The authors also assert that the UNFCCC meetings can benefit from scientific assistance. Hence, the article emphasizes the necessity of overcoming competing interests, reaching agreements with all nations, and enhancing institutional structure and enforcement. The authors suggest that in order to overcome problems, the UNFCCC might adopt effective procedures from other

[16] Allan and Bhandary, pp.161-162.

international venues. In the end, the article emphasizes the significance of linking scientific evidence with international climate change efforts in order to strengthen climate change negotiations and produce more effective global solutions.[17]

The article of Richard Kinley, Michael Zammit Cutajar, Yvo de Boer, and Christiana Figueres called "Beyond Good Intentions, To Urgent Action: Former UNFCCC Leaders Take Stock of Thirty Years of International Climate Change Negotiations" looks at seven functions or responsibilities of multilateral procedures (e.g., drafting international law, defining objectives, and assisting developing nations) to evaluate what has been accomplished since the initiation of the UNFCCC discussions. The authors underline that global climate change discussions generated three historic agreements, laying the groundwork for a coordinated international response to the global crisis. However, the multilateral system's realities, such as governments' partial implementation of treaty commitments and the commercial community's inadequate reaction, limit the influence of these agreements. As a result, there has been inadequate effort to combat climate change and assist developing nations. The authors highlight that international climate change discussions need to prioritize the full execution of agreed-upon pledges and national initiatives. Furthermore, they argue that there is a need for immediate action and a transition to investment-based approaches for adaptation and mitigation. Ultimately, the authors recommend a change from good intentions to immediate action, emphasizing carrying out pledges, mobilizing financial support, encouraging stakeholder participation, and increasing global ambition. In addition, they emphasize the significance of learning from past mistakes and adopting brave actions to confront the climate emergency.[18]

In their article called "The Pivotal Role of UNFCCC in the International Climate Policy Landscape: A Developing Country Perspective", Ravi S. Prasad and Ridhima Sud examine the advantages of an established multilateral system in promoting global climate action from the standpoint of developing nations. The authors point

[17] Ulrich J. Frey and Jazmin Burgess. "Why Do Climate Change Negotiations Stall? Scientific Evidence and Solutions for Some Structural Problems" *Global Discourse* (2022), pp.1-20.

[18] Richard Kinley et al. "Beyond Good Intentions, to Urgent Action: Former UNFCCC Leaders Take Stock of Thirty Years of International Climate Change Negotiations" *Climate Policy* 21, no:5 (2021), pp.593-601.

out that global cooperation has been weakened as a result of a major emitter withdrawing from the Paris Agreement and some developed countries unwilling to carry out agreed-upon actions. However, this does not mean that the multilateral process has failed. Furthermore, while actions taken outside of the UNFCCC may increase public awareness of climate change and encourage involvement, it is yet unknown if they will really have a major impact on increasing global climate ambition. In the end, Prasad and Sud argue that the world would be better served if climate action was governed by a genuinely global framework that provided developed and developing countries equal participation and voice.[19]

Katharina Rietig explores how advances in global climate discussions were made possible by learning in her article called "Leveraging the Power of Learning to Overcome Negotiation Deadlocks in Global Climate Governance and Low Carbon Transitions". The author asserts that getting over obstacles and facilitating the discussions that led to the 2015 Paris Agreement was made possible by the learning among national and non-national entities participating in international climate negotiations. Therefore, learning is useful in reaching consensus in negotiations and more efficient global governance. Additionally, Rietig argues that the 2009 climate agreement's failure was a learning experience that made the 2015 Paris Agreement successful. This is because of the progressive shift in attitudes between 2010 and 2015 about climate justice and the need for developing nations to transition to low-carbon economic development pathways.[20]

In their article named "The Knowledge Politics of Capacity Building for Climate Change at the UNFCCC" Snigdha Nautiyal and Sonja Klinsky investigate the knowledge politics of UNFCCC capacity building for climate change. According to the authors, power disparities have an impact on the UNFCCC's attempts to enhance capacity building for combating climate change, and this raises the question of whose expertise matters and in what manner. The UNFCCC frequently favors standardized

[19] Ravi S. Prasad and Ridhima Sud. "The Pivotal Role of UNFCCC in the International Climate Policy Landscape: A Developing Country Perspective" *Global Affairs* 7, no:1 (2021), pp.1-9.

[20] Katharina Rietig. "Leveraging The Power of Learning to Overcome Negotiation Deadlocks in Global Climate Governance and Low Carbon Transitions" *Journal of Environmental Policy & Planning* 21, no:3 (2019), pp.228-239.

and quantitative data and information, which might hinder the acknowledgment and support for contextual and culturally based knowledge. Additionally, Nautiyal and Klinsky emphasize that meetings regarding capacity building within the UNFCCC that respect contextual knowledge frequently take place in informal settings with no institutional backing. In the end, the authors urge for a more equitable and inclusive approach to capacity building, with an emphasis on underrepresented groups, meaningful engagement, and the support of non-state and subnational actors.[21]

The scholars thoroughly examine the challenges and complexities in climate governance and negotiation structures, particularly concerning power dynamics, institutional advantages, and the differing capabilities of national delegations. Scholars such as Danielle Falzon and Ayşe Kaya underscore the resource imbalances that favor developed nations in the UNFCCC proceedings, whereas Richard Kinley and Ravi S. Prasad indicate the structural shortcomings in international climate negotiations, advocating for immediate intervention and a more equitable framework. Furthermore, researchers like Ulrich Frey and Jazmin Burgess propose that climate negotiations stall due to persistent structural issues, including divergent interests regarding global common goods and decision-making frameworks that lack enforcement mechanisms.

Although these articles identify and critique global climate governance's operational and procedural deficiencies, they frequently neglect the more profound systemic gaps in national priorities and interests that fundamentally prevent consensus. The impediments to significant advancement lie in the structures and rooted national interests, especially concerning climate finance, technology transfer, and capacity building. Consequently, attaining global consensus necessitates tackling these fundamental divergences in a more transparent and inclusive approach. In this realm, the thesis argues that these initiatives need to move beyond procedural reforms and address the underlying national interests that drive climate policies, making transparency, equity, and genuine multilateral engagement critical for bridging these gaps and moving toward more effective global climate action.

[21] Snigdha Nautiyal and Sonja Klinsky. "The Knowledge Politics of Capacity Building for Climate Change at the UNFCCC." *Climate Policy* 22, no:5 (2022), pp.576-589.

Climate change policymaking is also another key element of climate action. In the literature, scholars examine climate change mitigation initiatives, compare and contrast climate change policies, and analyze the similarities and differences between NDCs. Ultimately, the authors highlight the necessity of revolutionary actions to achieve climate targets, urge for effective assessment criteria for policies and strategies, and assert the NDCs' inability to serve as a tool for creating effective climate policies.

The article named “A Review of Successful Climate Change Mitigation Policies in Major Emitting Economies and the Potential of Global Replication” written by Hanna Fekete, Takeshi Kuramochi, Mark Roelfsema, Michel den Elzen, Nicklas Forsell, Niklas Höhne, Lisa Luna, Frederic Hans, Sebastian Sterl, Jos Olivier, Heleen van Soest, Stefan Frank, and Mykola Gusti examines climate change mitigation initiatives executed in five major polluting economies: China, the EU, India, Japan, and the United States. The article also evaluates their historical performance in relation to indicators of the energy system and GHG emissions. Policies that attempt to minimize future emissions and their goal performance levels are evaluated. The evaluation focuses on the industries of oil and gas extraction, forestry, industry, buildings, passenger cars, freight transportation, and energy generation. Ultimately, the authors argue that the majority of target nations have successfully adopted policies for forestry, fuel efficiency, electrification of passenger cars, and renewable energy. Moreover, all nations analyzed would surpass their post-2020 climate goals' emission reduction targets. However, a corresponding reduction in global emissions by 2030 would not be enough to put the world on a cost-effective global route that limits temperature rises to below 2°C. In the end, the authors assert that the results of this analysis highlight the necessity of revolutionary actions in order to maintain the Paris Agreement temperature targets.[22]

The article by Kuok Ho Daniel Tang named “Climate Change Policies of the Four Largest Global Emitters of Greenhouse Gases: Their Similarities, Differences, and Way Forward” compares and contrasts the climate change policies of the four

[22] Hanna Fekete et al. "A Review of Successful Climate Change Mitigation Policies in Major Emitting Economies and the Potential of Global Replication" *Renewable and Sustainable Energy Reviews* 137 (2021), pp.1-14.

countries with the highest GHG emissions, namely, China, India, the United States, and the EU. The paper demonstrates that these nations' policies cover topics including resource and energy efficiency, the creation of cleaner, renewable energy sources, transportation system optimization, and the promotion of electric mobility. Compared to developed nations, developing nations tend to address LULUCF more frequently in their policy, whereas the United States and the EU focus more on clean transportation. In addition, there is a substantial gap between adaptation and mitigation policies. In this realm, the article highlights the necessity for continual progress while pointing out shortcomings in present climate change policy. The article suggests a participatory approach to policymaking, target-setting, and policy assessment to ensure fairness, legitimacy, and openness. The article also recommends revising policy goals in light of the Paris Agreement and implementing goals with effective governance and implementation. Finally, the author urges effective assessment criteria for policies and strategies to efficiently implement policies and fulfill climate objectives.[23]

The article by Scott R. Stephenson, Neil Oculi, Alex Bauer, and Stephanie Carhuayano called "Convergence and Divergence of UNFCCC Nationally Determined Contributions" examines similarities and differences in the stances of UNFCCC parties and party groups using a quantitative content analysis of 165 NDCs. According to the authors, the biggest disparity in NDC contents exists between Annex I and non-Annex I nations. The article demonstrates that the length, extent, substance, and degree of information of NDCs vary greatly, illustrating the various methods followed by parties in their climate commitments. Similarly, the sorts of mitigation commitments described in NDCs are diverse, ranging from overall reductions in emissions to specific low-carbon development initiatives. In the end, the authors assert that the NDCs' inability to serve as a tool for creating policies indicates the continuation of barriers to consensus among UNFCCC countries in the future.[24]

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[23] Daniel Tang Kuok Ho. "Climate Change Policies of the Four Largest Global Emitters of Greenhouse Gases: Their Similarities, Differences and Way Forward." *Journal of Energy Research and Reviews* (2022), pp.19-31.

[24] Scott R. Stephenson et al. "Convergence and Divergence of UNFCCC Nationally Determined Contributions" *Annals of the American Association of Geographers* 109, no:4 (2019), pp.1240-1258.

The literature on climate change policymaking discusses various initiatives, policy comparisons, and analyzes of NDCs; however, it frequently neglects the underlying systemic barriers related to national priorities that fundamentally hinder consensus in global climate negotiations. Researchers such as Hanna Fekete and colleagues advocate for revolutionary measures to achieve the targets set by the Paris Agreement, emphasizing that existing mitigation approaches are inadequate despite policy progress in significant emitters, including China, the EU, India, and the United States. Nonetheless, their analysis fails to comprehensively examine how entrenched national interests, and financial constraints influence these policies, which are essential for understanding the disparity between ambition and action. Moreover, Kuok Ho Daniel Tang's analysis of the climate policies of leading emitters underscores the differing priorities regarding renewable energy, transportation, and land-use policies between developed and developing countries. Tang advocates for enhanced participatory approaches to guarantee equity and efficacy in climate policymaking yet neglects to address the influence of national self-interest and resource inequalities. The disparities are essential for comprehending why global consensus remains unattainable despite common goals.

Furthermore, the research conducted by Scott R. Stephenson et al. highlights the disparity between Annex I and non-Annex I nations in their NDCs, indicating that these differences hinder the effectiveness of NDCs as a cohesive instrument for policy formulation. This analysis fails to examine how climate finance, technology transfer, and capacity building affect progress. Failure to recognize these fundamental variations in priorities may hinder efforts to reform climate policies from adequately addressing the systemic challenges obstructing global consensus. Consequently, although these scholars advocate for enhanced assessment instruments and the alignment of policies with international objectives, the thesis contends that genuine advancement can take place only if nations address the fundamental causes of divergence. This encompasses the economic and political factors influencing national interests and the necessity for a more inclusive and transparent approach regarding climate finance, technology transfer, and capacity building. By tackling these fundamental issues, the global climate governance framework can progress

beyond mere procedural enhancements to cultivate authentic collaboration and trust among nations.

Ultimately, the literature review thoroughly examines the multifaceted nature of climate action. In the literature, the complex dynamics, challenges, and opportunities of climate action are illuminated by various scholars through climate change governance, negotiations, and policymaking. Although current literature highlights procedural inadequacies and critiques structural frameworks, it frequently overlooks the profound systemic disparities and national priorities that fundamentally obstruct global consensus on climate action. This dissertation seeks to address this significant oversight by examining and contrasting the UNFCCC submissions of selected developed and developing countries, offering a comprehensive analysis of their approaches, priorities, and the core national interests that influence them. This comparative analysis is essential for comprehending why substantial advancement in global climate governance continues to be unattainable. In this regard, the dissertation aims to enhance the current climate policy and action literature by promoting a more sophisticated understanding of the interplay between national priorities and international negotiations.

1.4. Argument

The approaches of India, South Africa, Germany, and the United States in combating climate change indicate both convergence and divergence in NDCs, climate finance, capacity building, and technology transfer. Although these nations have a shared objective in combating climate change, their approaches vary greatly depending on national interests, historical responsibilities, and economic situation. India and South Africa had similar NDC targets, received bilateral and multilateral climate finance, prioritized technology transfer, and recognized the need for capacity building. On the other hand, countries differentiate in terms of the specificity of their NDCs, the size of finance needs, bilateral assistance received, the focus of funding, the varying needs for technology transfer, and capacity building. Moreover, Germany and the United States have commonalities regarding NDC pledges, providing climate funds, involving technology transfer, and assisting capacity building initiatives in

developing nations. In terms of differences, the nations' NDCs differ in terms of baseline and target years, policy uniformity, and the quantity and focus of climate funding, capacity building, and technology transfer support.

Moreover, the four countries demonstrate a broad range of climate change approaches. India and South Africa are emerging countries with vast populations and increasing economies. They are dedicated to lowering their GHG emissions, but their necessities and priorities vary. On the other hand, Germany is a developed country with an advanced economy and an environmental focus. The United States is also a developed country, but it is more doubtful about climate change actions. These various viewpoints resulted in various approaches to climate change negotiations under the UNFCCC. India chose a bottom-up approach, concentrating on adaptation and mitigation strategies customized to its specific needs and situations. South Africa adopted a more top-down approach, advocating for significant global action to cut GHG emissions. Germany selected a middle-ground approach, supporting adaptation and mitigation initiatives and fostering technology transfer, capacity building, and financial assistance for developing states. The United States took a more skeptical stance, claiming that the science is not evident and that the costs of mitigation actions are excessively high.

India has been a tough negotiator at the UNFCCC meetings, frequently competing with developed nations on financing, capacity building, and technology transfer issues. The climate issues that India and its coalitions surfaced in the UNFCCC meetings can be summarized as the following: They underlined the importance of climate finance, technology transfer, and capacity building, emphasized the absence of equality between Annex I parties and other parties, stressed the CBDR, supported legally enforceable implications for non-compliance, called for support for both mitigation and adaptation initiatives, opposed the limitation attempts of development ambitions of developing states, urged developed states to achieve their climate pledges, emphasized the need for deeper obligations solely on Annex I states, attracted attention to the necessity for sufficient for support initiatives and voiced concern over increasing Annex I GHG emissions.

South Africa has not been a tough negotiator compared to India and has been more inclined to take a compatible stance with developed nations. The climate issues that South Africa and its coalitions surfaced in the UNFCCC meetings can be summarized as the following: They emphasized the association between climate change and other issues, attracted attention to the adverse social and economic effects of climate change, put emphasis on African countries' vulnerability, indicated the lack of financial and technical assistance for mitigation and adaptation, reaffirmed that developed states must take the lead and advance their climate commitments and emphasized the concept of CBDR. Also, they underlined the necessity for addressing issues of technology transfer, emphasized challenges accessing the GEF funds, pointed out the lack of commitment to capacity building, criticized the unequal allocation of capacity building and the CDM projects, emphasized the mitigation, adaptation, implementation, funding, and technology gaps, stressed financial and support transparency challenges, emphasized the need of grant-based funding, pushed developed nations to commit to climate funding and highlighted transparency in financial, technological, and capacity building pledges.

Germany has been a more constructive negotiator, eager to collaborate with developed and developing countries to establish common ground. The climate issues that Germany and the EU surfaced in the UNFCCC meetings can be summarized mainly as the following: They emphasized the necessity of a rapid reduction of GHG emissions by developed and developing states, attracted attention to insufficient Annex I commitments, emphasized the necessity for identifying technological requirements, called for realistic and achievable climate objectives both for developed and developing states, underlined the importance of national communications and their reviews, emphasized that developed nations take the initiative in global warming, favored treaties rather than voluntary commitments, emphasized the need of concentrating on mitigation activities, urged for the creation of effective compliance mechanism, pushed donor countries to make contributions to the GEF and suggested Annex I countries submit a separate report.

They also underlined the importance of international cooperation to promote technology transfer, proposed country-led strategy and funding, promoted a balanced

approach for mitigation and adaptation technologies, declared that the IPRs were not the fundamental obstacle to technology transfer, stated their intention to increase climate funding, emphasized the importance of adopting a gender action plan and launching an initiative for local communities and indigenous peoples, underlined strengthening transparency framework and consistent time schedule for the NDCs, emphasized that meeting domestic commitments should be the primary objective of developed country compliance, called for simplifying CDM processes, highlighted the need for €100 billion to support adaptation, mitigation, REDD+, technology, and capacity building initiatives, restated its pledge to mobilize $100 billion annually by 2020, underlined the importance of transparency, quantifiability, and comparable nature of the INDC reporting and urged for strengthening current capacity building procedures and structures.

Finally, the United States has been a less active negotiator and is frequently viewed to be skeptical of climate action actions. The climate issues that the United States and the Umbrella Group raised in the UNFCCC meetings can be summarized mainly as the following: They stated that SAR is the most extensive examination of scientific evidence, urged for the establishment of a technology transfer information center, backed the formation of a legally enforceable agreement, emphasized the necessity of deep emission reductions, underlined the importance of the principle of the CBDR, argued that the IPRs were not the primary obstacle to technological transfer, supported global transparency framework, requested clarity on technical and administrative issues and emphasized the necessity of flexibility mechanisms and highlighted that pledges made by all parties must provide space for economic growth while safeguarding the environment.

Furthermore, the country supported the development of an effective compliance framework, promoted the development of cost-effective mechanisms, supported economic development for environmental protection, pointed out public-private partnership, noted the necessity of examining national circumstances of countries, pushed for the legally enforceable agreement by all parties, supported private sector involvement in the SCF and the GEF, attracted attention on the need for increasing adaptation measures, voiced concern about the relationship between compliance and

eligibility for involvement in the CDM, stressed that technology development and transfer should be addressed as part of a broader plan for mitigation and adaptation, supported strengthening existing entities established under the Convention, backed widening the focus of national adaptation planning procedures, emphasized the importance of the private sector in assuring the GCF's operations and underscored the essential role of finance in assisting developing countries' net zero transitions.

In the end, the varied climate change approaches and positions of India, South Africa, Germany, and the United States in the UNFCCC meetings demonstrate the complexity of international climate negotiations, stressing the challenges of achieving global consensus on critical climate issues. These four countries' respective national priorities and circumstances determine their approach to climate change and shape their engagement in the COP meetings. Furthermore, the different approaches of these four countries reflect the different ways in which climate change is perceived in different parts of the world and the different ways in which these countries are affected by climate change. Therefore, these differences reveal the need to address diverging necessities discussed in climate negotiations. Moreover, the UNFCCC negotiations deal with a variety of issues. These issues reveal much about the challenges facing meaningful progress in climate action and efforts to achieve consensus within the UNFCCC.

A large amount of research underscores difficulties in climate governance and policy due to slow progress, institutional inefficiencies, and technical obstacles, so many authors argue that the UNFCCC needs reforms to increase efficiency, accountability, and transparency.[25] In this realm, the dissertation emphasizes a comparative analysis of the fundamental national interests, historical obligations, and economic inequalities influencing these countries' stances in the UNFCCC negotiations. Furthermore, the literature predominantly neglects a comprehensive comparative analysis of the manifestation of these national interests in the submissions, negotiations, and climate pledges. This dissertation distinctively highlights the

[25] Naghmeh Nasiritousi, Alexandra Buylova, Mathias Fridahl, and Gunilla Reischl. "Making The UNFCCC Fit for Purpose: A Research Agenda on Vested Interests and Green Spiralling" *Global Policy* (2024), p.488; Xira Ruiz-Campillo. "Post-Paris Agreement Negotiations: A Commitment to Multilateralism Despite the Lack of Funding" *Environmental Science & Policy* 156 (2024), p.2.

underlying complexities within Annex I and non-Annex I countries, particularly through case studies of India, South Africa, Germany, and the United States, despite the current academic literature on their differing obligations and goals.

This thesis goes beyond a superficial assessment and instead investigates how national priorities determine their participation in international climate negotiations by examining their different approaches to NDCs, climate finance, technology transfer, and capacity building. Consequently, although a significant portion of the literature concentrates on operational shortcomings and the demand for more ambitious climate targets, the thesis argues for a greater focus on addressing these rooted systemic disparities and the necessity of harmonizing national priorities with global climate goals.

Divergence in climate targets and needs highlights the difficulties of coordinating climate efforts among economies with widely differing needs and priorities. The climate approaches of the selected countries and the COP meetings indicated that the economic level and national interests affect climate negotiation stances; developed countries are more concerned about reducing emissions while developing nations stress equity and support. Moreover, the gap in climate leadership highlights the importance of consistent and unified leadership from significant global parties, as it diminishes the global momentum required for combating climate change.

Finally, this thesis contends that effective climate governance necessitates not only formal approaches to collaboration but also a commitment to resolving power inequalities and underlying systemic challenges that define parties' participation in global climate action. According to neoliberal institutionalist theory, institutions like the UNFCCC are crucial for promoting cooperation, but their effectiveness is frequently limited by deep-rooted power relations. Since it allows all parties to engage in meaningful participation and fulfill their national and international obligations, reducing power inequalities and encouraging dynamic adaptation to new climate challenges are crucial steps toward a more equitable framework. Also, neoliberal institutionalism emphasizes that institutions have to transform in order to be responsive and relevant, particularly when new demands arise, and climate

concerns intensify. In this realm, it is crucial to modify institutional processes in order to address both new and existing inequities and maintain the mutually beneficial nature of cooperative frameworks.

1.5. Methodology

The thesis will examine the policies and approaches of India, South Africa, Germany, and the United States regarding climate change. In this respect, descriptive analysis is employed in the thesis to provide contextual information on these states' policies, targets, and commitments. Governmental statistics, data, national and international reports, publications on selected countries, and academic articles and books will be used. Hence, the study collects information from different sources in order to provide a complete picture. In fact, policymaking in climate change is a continuous process, and most of the topics discussed in the thesis are recent and contemporary issues. Therefore, web and UNFCCC sources will also be used to present the most correct and updated information.

In addition to descriptive analysis, the case study method will also be used to depict a clear picture of the climate change approaches of four different countries. Case studies of India, South Africa, Germany, and the United States will demonstrate how the experiences of these countries vary across each other and the way they cope with climate change challenges. As a result, the thesis will reveal how and what these countries negotiate in UNFCCC meetings and how they approach climate-related challenges. The cases are selected based on various factors. The selected countries are on different continents and have different levels of economic development. Specifically, India and South Africa are developing states and belong to non-Annex I countries. On the other hand, Germany and the United States are considered developed countries and belong to Annex I countries. In this situation, each country faces unique challenges and opportunities due to its location and the level of economic development in addressing climate change.

Moreover, these countries are some of the highest emitters in the world and their continents. In this case, the activities of these countries have a significant impact on

the global climate system, and they are expected to be more active in combating climate change. Climate policy frameworks, targets, and commitments of selected countries will be elaborated through the latest submissions of BURs, BRs, and NDCs. Apart from these reports, countries should make voluntary submissions of their LT-LEDS to demonstrate their long-term climate strategies and pathways up to 2050 and beyond. These reports, except LT-LEDS, have to be submitted to UNFCCC by selected countries. In fact, the UNFCCC secretariat provides guidelines and outlines for reporting to BURs, BRs, and NDCs, making these reports comparable and assessable across different countries. Hence, comparisons between countries will be made through the latest submitted documents prepared by the selected countries.

Under the UNFCCC, non-Annex I countries are obligated to submit BURs. These reports specify the actions taken by each state to reduce the effects of climate change and prepare for them. The BURs are an essential part of the global climate change regime, since they monitor the progress made to minimize the rise in the average global temperature. As a result, the reports thoroughly review the countries' GHG emissions, mitigation initiatives, and progress in implementing adaptation measures. The BURs are designed to be transparent, uniform, and cross-nationally comparable. They are created methodically and systematically in accordance with global standards defined by the UNFCCC. Specifically, the report includes national circumstances, GHG inventories, mitigation actions, financial, technical, and capacity needs, and any additional information the country finds appropriate for inclusion in its report related to achieving the targets of the Convention.[26]

In addition, the reports undergo an expert review procedure to guarantee validity and accuracy. The BURs allow states to exchange best practices, lessons learned, and experiences addressing climate change. Consequently, the BURs are essential for monitoring the development of a more robust and sustainable future. The reports provide countries the chance to comprehend their risks and potential more fully for action while also giving the world community a clear and comparative picture of all

[26] "Biennial Update Reports". United Nations Framework Convention on Climate Change. 2022. Retrieved https://unfccc.int/biennial-update-reports

efforts to combat climate change on a global scale. COP 17 decided in 2012 that the first BURs from non-Annex I parties would be submitted by 2014, in accordance with their capacities and the amount of support provided for reporting. Every two years, the succeeding BURs need to be submitted.[27]

BRs are another reporting requirement under the UNFCCC. Annex I countries prepare the BRs per the guidelines contained in the decision of COP 17. The reports are submitted every two years by 2014 and provide information on their progress in meeting their commitments under the Convention. The BRs include information on the financial resources provided to developing countries for climate change mitigation and adaptation, technology transfer, and capacity building activities that developed countries undertake to assist developing countries in addressing climate change. Specifically, BRs include national circumstances, GHG inventory, policies and measures, projections, vulnerability assessment and adaptation measures, financial measures and technology transfer, research and systemic observation and education, training, and public awareness.[28]

The BRs can also contain details on the domestic mitigation and adaptation measures that different countries are pursuing and updates on their progress toward meeting their quantifiable emission reduction objectives. The BRs are additionally subject to a transparency and accountability structure that entails reporting and review procedures to ensure that advanced countries are adhering to their commitments and that advancement is being made toward reaching the primary goal of the Convention.[29] In general, the BRs are a crucial instrument for monitoring progress toward combating climate change and advancing sustainable development, especially in developing states that are most prone to its effects. Hence, the BRs provide developed countries a way to report on their pledges to assist developing countries in

[27] "Biennial Update Reports"

[28] "First Biennial Reports - Annex I. United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/biennial-report-submissions/first-biennial-reports-annex-i

[29] "Preparation of NCs and BRs". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/preparation-of-ncs-and-brs#Guidelines-on-reporting-Biennial-Reports

mitigating and adapting to climate change and give the international community a way to evaluate how well these efforts work.

Besides BURs and BRs, NDCs are each country's commitment to curbing GHG emissions and preparing for climate change effects. Each state is responsible for creating and submitting its NDCs, and it should be aspirational, transparent, and in line with the long-term climate objectives. NDCs aim to be proactive and dynamic, considering how each country's capabilities, circumstances, and goals are altering. It needs to be updated and modified throughout time to account for new knowledge, developing conditions, and technological advancements. Hence, the NDCs have the flexibility to address various challenges, including mitigation, adaptation, and financial and technical support.[30]

Since 2015, states have needed to submit their NDCs every five years. The transparency and accountability structure that includes reporting and review procedures is also applied to the NDCs to ensure that each state is adhering to its obligations and progressing in attaining the global climate objectives. Overall, the NDCs serve as a vital instrument for global climate change collaboration. It provides a transparent and responsible framework for tracking progress toward a more sustainable and resilient future for all while enabling governments to establish ambitious objectives and take action to cut their GHG emissions and adapt to climate change's effects.[31] Also, all these countries have submitted updated versions of their first NDCs since 2015.

The Paris Agreement's goal of keeping global warming well below 2°C is matched with the development objectives of nations utilizing LT-LEDS frameworks. LT-LEDS should be voluntarily submitted by nations to show their long-term climate objectives and approaches through 2050 and beyond. By combining climate action with social and economic planning, long-term strategies offer a road map for

[30] "Nationally Determined Contributions (NDCs)". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs

[31] "Nationally Determined Contributions (NDCs)"

transforming national economies into low-carbon, sustainable models by the middle of the century. LT-LEDS outlines what needs to be done, how things can change, and who is involved, allowing states to give direction and facilitate coordination.[32] Hence, these strategies guide the short-term decisions required to reach net-zero emissions and climate-resilient economies while outlining long-term goals for development and climate.[33]

Specifically, LT-LEDS promotes resource efficiency by identifying priority sectors for green growth, encourages investments that align with net-zero emissions, promotes a just, equitable, and fair transition, supports integrating adaptation and mitigation of climate change into national development goals, offers guidelines for NDCs and helps determine the need for international cooperation and support. By doing so, LT-LEDS boosts investor confidence, encourages technological innovation, and ensures that current and future generations benefit from sustainable development, enhanced climate resilience, and lower emissions.[34]

Due to the information provided in the reports mentioned above and the comparable nature of these reports, the state of climate policies, targets, and commitments are analyzed based on the latest BURs, BRs, and NDCs. The country comparisons are conducted through NDCs as well as climate finance, technology transfer, and capacity building mechanisms mentioned in BURs and BRs, all of which are based on the core mechanisms of the Paris Agreement. Article 9 of the Paris Agreement emphasizes the necessity of climate finance, Article 10 stresses the need for technology transfer, and Article 11 concentrates on capacity building needs. Hence, the thesis seeks to explore the similarities and differences between national approaches by investigating the latest submissions of selected countries on these mechanisms. Climate finance, technology transfer, and capacity building are

[32] Alexandra Buylova, Naghmeh Nasiritousi, Andreas Duit, Gunilla Reischl, and Pelle Lejon. "Paper Tiger or Useful Governance Tool? Understanding Long-Term Climate Strategies as A Climate Governance Instrument" *Environmental Science & Policy* 159 (2024), p.2.

[33] Xander Van Tilburg and Alexander Ochs. "Planning For a Net-Zero Future: Guidance on How to Develop a Long-Term Low Emission Development Strategy (LT-LEDS)". United Nations Development Programme. 2024. Retrieved from https://www.undp.org/publications/planning-net-zero-future-guidance-how-develop-long-term-low-emission-development-strategy-lt-leds, pp.2.

[34] Xander Van Tilburg and Alexander Ochs, p.2.

essential components of global climate action, as they address fundamental inequalities and obstacles to attaining climate resilience and sustainability. Hence, this approach highlights how the Paris Agreement's adaptable, bottom-up framework, unlike the Kyoto Protocol's inflexible structure, enables nations to tailor their climate approach on climate finance, technology transfer, and capacity building.

The UNFCCC laid down the basic principles, the institutional and procedural foundations, and set out the main obligations for the process of combating climate change at the international level. Then, the Kyoto Protocol finalized and detailed these obligations. In the Kyoto Protocol, emission reduction obligations have been defined, the general framework of the mechanisms for their implementation has been set forth, and arrangements have been made for monitoring whether the obligations are fulfilled or not.[35] However, the protocol did not yield the expected impact. The United States' absence from the Kyoto Protocol was a major factor in nations' reluctance. Another explanation was that while emerging powers like China, India, and Brazil had grown economically, their emissions share had also increased. This resulted in significant pressure on major emitters to fulfill their obligations.[36]

After Kyoto, the Copenhagen Accords in 2009 marked the beginning of a change in global climate governance from a rigorous, legally enforceable framework to a more flexible and voluntary approach. Compared to the Kyoto Protocol, the Copenhagen Accord has a bottom-up approach, but its pledges were political rather than legal obligations. Therefore, the Copenhagen Accord did not result in a treaty, but it was critical to set the groundwork for the Paris Agreement.[37]

Although both the Kyoto Protocol and the Paris Agreement seek to address climate change, this thesis concentrates on the Paris Agreement's distinctive approach, which prioritizes flexibility, inclusion, and long-term global collaboration. In contrast to the

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[35] Şule Güneş. "İklim Değişikliği Yükümlülüklerine Uygunluğun Sağlanması: Kyoto Protokolü Uygunluk Mekanizması." *Uluslararası İlişkiler* 8, no:31 (2011), p.70.

[36] Klaus Dingwerth. "Multi-Layered Differentiation in The Climate Regime: The Gradual Path from Rio to Paris." *Environmental Politics* 33, no:2 (2024), p.244.

[37] Daniel Bodansky. "The UN Climate Change Regime Thirty Years on: A Retrospective and Assessment+." *Environmental Policy and Law* 53, no:1 (2023), pp.21-22.

Kyoto Protocol, which imposed top-down legally binding emissions reduction targets and penalties for noncompliance exclusively on developed countries, the Paris Agreement mandates that all countries, both developed and developing, contribute to the reduction of GHG emissions. Also, the Paris Agreement incorporates enhanced flexibility and national ownership. This means that no provisions are specified on what commitments states ought to undertake, so countries may establish their own emissions goals under their developmental status and technical capabilities.[38]

Moreover, the Paris Agreement does not have severe punishments for nations failing to achieve their commitments. Rather, it has a comprehensive framework for monitoring, reporting, and periodically reassessing both individual and collective national objectives to advance global aims. The agreement mandates that nations declare their subsequent objectives at certain year periods, in contrast to the Kyoto Protocol, which intended this goal but lacked a definitive condition for its realization.[39] Hence, the Paris Agreement institutionalizes ideas and procedures that states have established since the UNFCCC's formation in 1992. In this realm, this thesis focuses on the flexible framework and inclusive approach of the Paris Agreement, examining how its mechanisms influence national climate priorities.

Furthermore, the thesis mainly focuses on climate mitigation over adaptation. This emphasis highlights the need to address the root causes of climate change by exploring approaches that reduce GHG emissions and promote the shift to a low-carbon economy. Although adaptation plays a crucial role in assisting countries in coping with and minimize the consequences of climate change, this thesis will only address adaptation to the extent necessary to put mitigation efforts in perspective. In this regard, this thesis examines mitigation by evaluating how particular countries contribute to global emissions cuts through policies, financial commitments, technology transfer, and capacity building support, thereby supporting the primary goal of limiting global temperature rise as outlined in the Paris Agreement.

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[38] Daniel Bodansky. "The Paris Climate Change Agreement: A New Hope?." *American Journal of International Law* 110, no:2 (2016), p.290; "Paris Climate Agreement: Everything You Need to Know". The Natural Resources Defense Council (NRDC). February 19, 2021. Retrieved from https://www.nrdc.org/stories/paris-climate-agreement-everything-you-need-know#sec-whatis; Dingwerth, p.241.

[39] Bodansky, p.290; "Paris Climate Agreement: Everything You Need to Know".

Regarding the case study countries, India has submitted three BURs, while South Africa has submitted five BURs. On the other hand, Germany and the United States submitted five BRs. Regarding BURs and BRs, the last uploaded documents will be used. In addition, the initial and updated versions of NDCs will be analyzed. Comparing documents from different countries provides considerable insight into how each country approaches climate change. Each of these documents provides various types of information that can be utilized in assessing how effectively a country is fulfilling its UNFCCC commitments and how they differentiate from each other.

Besides the documents submitted to the UNFCCC, these countries and their coalitions have significantly influenced international climate change negotiations. Hence, their participation in climate change meetings is critical. This is because their approach to climate change challenges and their negotiations of climate issues in the UNFCCC meetings are vital for shaping the global response to climate change. In this realm, the negotiation stances of the selected countries are analyzed through the Earth Negotiations Bulletin of the International Institute of Sustainable Development (IISD). The IISD publishes independent and objective research, including reports, briefings, guides, and various resources related to sustainable development issues. Hence, the negotiation stances of India, South Africa, Germany, and the United States are essential to provide a comprehensive understanding of how different countries that have different levels of economic development and are located on different continents are approaching, addressing, and negotiating the challenges of climate change in the international climate change negotiations.

1.6. Structure of Thesis

The thesis structure is designed to provide a comprehensive and systematic analysis of the chosen research topic. The introductory chapter outlines the research scope and objectives, main research question, argument, literature review, and methodology. The second chapter analyzes realism, liberalism, constructivism, and critical theories to determine the theoretical foundation of the dissertation. The third chapter examines the historical evolution of the UNFCCC, the meetings, and the

institutional framework of the UNFCCC, providing a contextual setting for understanding the bodies and coalitions of the UNFCCC, negotiations, and decision-making processes. The fourth chapter elaborates on the evolution of the climate regime through UNFCCC meetings from 1995 to 2023.

The thesis then examines the climate change policies and strategies of India, South Africa, Germany, and the United States in individual country-specific chapters. These chapters provide an in-depth analysis of each country's domestic context, policy frameworks, necessities for policy implementation, and key initiatives addressing climate change. The chapter also includes these four countries and their coalitions' positions, perspectives, and arguments within the UNFCCC negotiation processes. It scrutinizes their negotiating stances on crucial issues. Finally, the conclusion chapter will include a comprehensive synthesis and comparative analysis of the findings from the individual country chapters. It highlights the commonalities and differences between India, South Africa, Germany, and the United States regarding NDCs, finance, technology transfer, and capacity building. The conclusion chapter draws upon the research findings to provide critical insights.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1. Introduction

The theoretical framework chapter elaborates main theories of international relations, namely realism, liberalism, constructivism, and critical theories. This chapter will examine the main arguments of these theories and various perspectives on climate change. These theoretical frameworks provide valuable insights into understanding the complexities of climate change as a global issue. After examining these theories, the neoliberal institutionalist theory, which will be used in this thesis, will be elaborated. The chapter begins by highlighting the fundamental tenets and assumptions of theories of international relations. Then, it continues by analyzing the perspectives of these theories on climate change. Subsequently, a comprehensive evaluation reveals that while each theory offers valuable insights, neoliberal institutionalism emerges as the most compelling framework. Therefore, this chapter sets the stage for the subsequent analysis by presenting the theoretical foundations that underpin the examination of the countries' approaches to climate change, their climate change targets and policies, and their positions in UNFCCC meetings.

2.2. Realism

Realists share the fundamental belief that the international political system is anarchy, that there is no greater, overriding power, no world authority. The state is the most powerful player in global politics, so international relations are primarily state interactions. This means that states are unitary and rational actors. Hence, individuals, IGOs, NGOs, and other participants in global politics are either significantly less important or irrelevant. The primary goal of foreign policy is to

advance and protect national interests and to ensure state existence. However, states are unequal, and there is a global power hierarchy between states. The great powers are the most significant states in international affairs. Realists regard international politics as a conflict between major nations for dominance and security.[40] In the competition for dominance and survival, states engage in actions and strategies to counterbalance other states' power, especially those seen as potential threats. This balance is believed to create a more stable and secure international system by preventing the emergence of a hegemonic power that could dominate and oppress others.[41]

Since all states have to protect their national interests, other countries and governments cannot be completely dependent on or totally trusted. All international agreements are temporary and contingent on governments' willingness to uphold them. Treaties and all other agreements, conventions, customs, norms, laws, and so on between nations are thus essentially pragmatic arrangements that may and will be abandoned if they contradict states' fundamental interests. There are no legal or ethical international responsibilities between independent states. Hence, the ultimate role of the state is to advance and protect national interests.[42] Three significant currents of thought emerged from the realist paradigm in the 20th century: classical realism, neorealism, and neoclassical realism.

2.2.1. Classical Realism

Realistic perspectives on human nature are pessimistic. This negative perspective of human nature is evident in the leading classical realist theorists. Thucydides, Niccolò Machiavelli, Thomas Hobbes, and Hans Morgenthau are all classical realists who hold this viewpoint. They think that power acquisition and ownership, as well as power deployment and usage, are vital concerns of political action. Thus,

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[40] Robert Jackson and Georg Sorensen. *Introduction to International Relations Theories and Approaches* (Oxford: Oxford University Press, 2013), pp.66-67.

[41] Tim Dunne, Milja Kurki and Steve Smith (eds.). *International Relations Theories: Discipline and Diversity* (Oxford: Oxford University Press, 2013), pp.62-64.

[42] Robert Jackson and Georg Sorensen, p.67.

international politics is presented as power politics, an arena of competition, struggle, and war between states in which the same fundamental concerns of preserving the national interests and maintaining the existence of the state, as well as the security of its people.[43]

The earliest form of realist thinking in IR that arose in the twentieth century is generally called classical realism since it drew thoughts from various classic thinkers or philosophers in the evolution of ideas. The earliest person identified for the classical tradition is the ancient Greek historian Thucydides, who expressed ideas on power politics, violence, and moral consequences that highlight the core principles of realism. He also highlighted human nature's significance, distinguishing it from classical tradition.[44] In the most well-known chapter of "*The History of the Peloponnesian War, the Melian Dialogue*", Thucydides discusses not just issues of power but also the importance of alliances and balance of power as a tactic that governments might employ to increase their strength or to give more protection. These are crucial elements in today's understanding and application of realist thinking.[45]

The concepts of survival, power accumulation, and national interests can also be found in Niccolò Machiavelli's famous work "The Prince". For Machiavelli, the main objective of rulers is to seek benefits and protect the interests of their state in order to secure its continuation. This necessitates courage and brutality in the pursuit of self-interest. Therefore, executing a foreign policy is essential for Machiavellian activity based on the wise assessment of one's power and interests compared to rivals' and competitors' strengths and interests.[46]

Moreover, the state of nature increasingly dominated Thomas Hobbes's writings. His "Leviathan" is considered the best-known classic work on power, how to exploit it

[43] Robert Jackson and Georg Sorensen, p.66.

[44] Stephanie Lawson. *Theories of International Relations: Contending Approaches to World Politics* (Cambridge: Polity Press, 2015), p.62.

[45] Joyce P. Kaufman. *Introduction to International Relations: Theory and Practice* (Plymouth: Rowman & Littlefield Publishers, 2013), p.66.

[46] Robert Jackson and Georg Sorensen, pp.69-70.

for good based on peace, and how to manage it to avoid evil, especially war. According to Hobbes, nature is anarchic, and the only rule controlling people in this state is based on self-preservation. This is also supported by reason, as it is logical for people to focus on this objective first and foremost and use their available resources to achieve it. Hence, Hobbes argues that individuals are always afraid of each other in the state of nature as they strive for the resources essential to ensure their existence.[47] In this realm, the concept of sovereignty, which exists in a supreme common authority responsible for making and enforcing general laws to not only enable an end of war among those coming under this authority but also to provide unity against foreign enemies, is the answer to Hobbes's problem with the state of nature. Therefore, one of the essential elements of the sovereign's authority is an agreement among people to give up the freedom and equality they have in the state of nature.[48]

Hans Morgenthau, another realist, outlined six premises of political realism in his work called “Politics Among Nations: The Struggle for Power and Peace”. First and foremost, politics stems from a constant and unchangeable aspect of human nature that is fundamentally self-centered, self-regarding, and self-interested. Second, politics is a separate field of endeavor and cannot be simplified into morality. Thirdly, self-interest is a fundamental aspect of human nature; contradictory state interests are a feature of global politics, and these interests are not constant. Fourthly, international relations morals vary greatly from private morality since they are political or situational in nature. Fifthly, realists reject the notion that certain countries can force their ideas on other countries. Lastly, governance is a serious activity that requires a comprehensive understanding of human constraints and weaknesses.[49]

For Morgenthau and other realist intellectuals, the ideas of the realist approach assume that all interactions are ultimately founded in power. According to realists, the continual fight for dominance between people or nations makes war inevitable.

[47] Lawson, p.73.

[48] Lawson, p.74.

[49] Robert Jackson and Georg Sorensen, p.75.

Realists also argue that different and rational political options need to be carefully considered, their effects evaluated, and where they fit in the particular political and cultural context taken into account. This implies that the idea and circumstances surrounding the exercise of power may and will change and that individuals who make decisions must acknowledge the change.[50]

In conclusion, classical realist thinkers such as Thucydides, Niccolò Machiavelli, Thomas Hobbes, and Hans Morgenthau laid the groundwork for understanding how power dynamics shape the behavior of states. They emphasized the importance of state centrism, state survival, balance of power, national interests, and an anarchic international system. Neorealism, a later development within the realist tradition, built upon these ideas and introduced the concept of systemic constraints and the distribution of power as the primary drivers of state behavior.

2.2.2. Neorealism

Neorealism was born in reaction to classical realism, indicating a substantial divergence in the realist paradigm. Kenneth Waltz, whose ideas are influenced by a particular science philosophy and microeconomic models, is mainly known for neorealism. “The Theory of International Politics” is one of Waltz's best works, and it is built on rationalist presumptions in many aspects.[51] Waltz asserts that a structure and its interdependent parts make up systems. Three components make up political structures: an organizing principle (hierarchical or anarchic), the nature of the units (functionally similar or distinct), and the distribution of capabilities. Waltz contends that two aspects of the international system's structure are unchanging: the absence of a supreme authority, which results in anarchy as the organizing principle, and the self-help principle, which ensures that all units continue to operate similarly. As a result, the fundamental difference between multipolar and bipolar systems is the distribution of capacities.[52]

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[50] Kaufman, pp.71-72.

[51] Knud Erik Jørgensen. *International Relations Theory: A New Introduction* (London: Macmillan Publishers, 2018), p.128.

[52] Martin Griffiths (ed.). *International Relations Theory for the Twenty-First Century* (New York: Routledge, 2007), p.13.

Neorealists contend that there are universal principles that explain incidents in the global system. Hence, Waltz and other neorealists emphasize the international system as the primary analytical unit more than the nation-state.[53] Neorealism also argues that power distribution within the global structure will change and that governments will work to maintain a balance. As a result, how states operate is influenced by the structure of the global system and the distribution of power.[54] The neorealist theory also examines the balance of power, similar to the realist theory. However, instead of concentrating just on nation-states, neorealists situate this concept of balance within the framework of the international system. Since alliances impact how the international system is structured, the notion of balance also plays a part in the function and impact of how the international system is structured.[55]

All in all, multiple kinds of state actions, including balancing, bandwagoning, and pursuing relative or absolute gains, are all explained by neorealism. Hence, state behavior is characterized by tactical or operational systemic structural elements, by the balance of power theory, and strategically by shifting polarity.[56] Neorealists also believe that multipolar systems are less stable than bipolar systems since the level of interdependence tends to be lower in bipolarity than in multipolarity. Despite unit behavior, neorealists argue that the hegemony of any single state is unlikely.[57] Consequently, for realists and neorealists, the central idea of their theoretical framework for comprehending international relations is power. They differ when it comes to recognizing the leading players and the underlying presumptions that guide their actions.[58]

2.2.3. Neoclassical Realism

Neoclassical realism seeks to integrate the features of classical realism and neorealism by incorporating structure under anarchy with key variables arising from

[53] Kaufman, pp.72-73.

[54] Kaufman, p.73.

[55] Kaufman, pp.73-74.

[56] Jørgensen, pp.129-130.

[57] Griffiths, p.14.

[58] Kaufman, p.75.

the internal dynamics of states, such as ideology, personalities, perceptions, misperceptions, and other factors that feed into foreign policy. In essence, it combines structural realism with foreign policy analysis, which considers domestic concerns. Gideon Rose examines a body of neoclassical literature and argues that it updates and systematizes several findings from classical realist theory by considering both internal and external factors.[59] Neoclassical realists acknowledge that the best place to start when examining global outcomes is with an understanding of material capabilities and power dynamics. However, they emphasize that state features and leaders' ideas about how power should be utilized should play a role in mediating between structural limitations and behavior.[60]

In summary, neoclassical realism sheds light on why, how, and under what circumstances a state's internal dynamics affect its leaders' assessments of global risks and opportunities and their actual pursuit of diplomatic, military, and foreign economic actions. The theory combines elements of neorealism and classical realism while incorporating domestic factors to provide a more nuanced understanding of state behavior.

2.3. Liberalism

One of the essential viewpoints in Western political thought has been recognized as liberalism, a well-known political theory. Thus, the liberal tradition has a close relationship to the European Enlightenment. Furthermore, liberalism is frequently linked to consistent support for individual liberty, a free market economy, and limited government involvement in the economy. The liberal tradition arose historically as a critique of feudal rule and the central international economic policy of the period, known as mercantilism.[61] In general, five essential characteristics define the liberal tradition. First of all, liberal thinkers firmly believe in human reason. The ability to reason frees humanity from the burden of fundamental human

[59] Lawson, p.120.

[60] Griffiths, p.16.

[61] Jørgensen, p.95.

nature and the constraints of revealed reality. Therefore, humans can analyze and influence nature and society by using reason. In this realm, liberal thinkers contend that people have the power to control their fate, including the course of international relations and the unfavorable effects of the absence of a global government. Also, liberals tend to make rationality-based assumptions and think people act rationally. This trait dates back to the political thinker John Locke.[62]

The father of classical liberalism is considered the British thinker John Locke. According to Locke, natural rights are derived from natural law. These serve as the foundation for peaceful coexistence even in the absence of a civil state and are precursors to the laws created by a civil order under sovereign rule. In Locke's view of the state of nature, everyone has an equal right to life, liberty, and property. These rights should be safeguarded because they do not disappear with the creation of the civil state. In terms of political power, Locke argues that no legitimate government is permitted to restrict these rights or act illogical or arbitrarily in using political power. These rights are inherent and universal, holding true for all centuries and locations since they are delivered to every person by nature.[63]

Second, thinkers within tradition think that history can advance. In other words, they think altering international relations is feasible and desirable. Liberals firmly foster linear and occasionally unidirectional views of history when faced with the choice between cyclical and linear perspectives on historical development. They do this because social learning and human reasons make development possible. As a result, humans are not bound to survive in a constant war, but they can use political solutions to prevent it.[64]

Third, liberal theorists emphasize the connections between the state and society and assert that there is a strong relationship between domestic institutions and politics and foreign affairs. They believe that these two areas of political and social activity

[62] Jørgensen, pp.95-96.

[63] Lawson, p.143.

[64] Jørgensen, p.96.

are interrelated. Many liberal thinkers have been persuaded that there is a causal connection between domestic regime structure and the likelihood of conflict ever since German philosopher Immanuel Kant wrote Perpetual Peace. Kant argued that democratic/republican states are more peaceful than non-democratic/republican states. This concept serves as the foundation for the so-called republican school of liberal thinking and the ideology of democratic peace theory.[65] The theory argues that democratic states tend to settle their disputes peacefully, reducing the likelihood of conflicts between democratic nations.

Fourth, some liberal thinkers argue that a rise in economic interdependence among governments minimizes the possibility of conflict and war. Throughout the medieval era, traditional thought believed mercantilist objectives and war were entirely compatible. Liberals contend that free trade is superior to mercantilism since it generates prosperity without waging war.[66] The ideas proposed by Adam Smith originated as a reaction against mercantilism. He asserts that the resources in the entire world were finite, and that one state's acquisition of wealth made it more powerful and the others comparatively weaker. Smith developed and promoted free trade concepts, combining presumptions about supply and demand in an open market through which everyone can achieve increased prosperity, in contrast to mercantilism's firm protectionist policies.[67] David Ricardo contributed to the expansion of the liberal political economy paradigm. His theory of the comparative advantages of trade was crucial in this situation. According to the theory, countries should specialize in producing goods or services where resources are relatively more efficient than other countries. Richard Cobden went a step further, asserting that increased commerce and economic interconnectedness would decrease the likelihood of interstate conflicts.[68]

Fifth, liberal thinkers can be characterized by their rationalizations for the advantages of institutionalizing international relations. Different strategies are used to

[65] Jørgensen, p.96.

[66] Jørgensen, p.96.

[67] Lawson, pp.146-147.

[68] Jørgensen, pp.96-97.

institutionalize. Some highlight the benefits of an increasingly interconnected web of international organizations and draw attention to their rapid expansion. Others highlight the value of agreed orders or international accords. In this regard, liberals think that anarchy can be controlled, and that international law is the oldest international legal system governing interactions between nations.[69] Having elaborated on the main features of liberalism, it is rational to examine liberalism under three significant currents: sociological liberalism, interdependence liberalism, and liberal institutionalism.

2.3.1. Sociological Liberalism

According to sociological liberalism, international relations are not just about relationships between states; it also involves transnational relationships, such as those between individuals, social groupings, and organizations from many nations. Emphasizing transnational interactions allows sociological liberals to revisit a fundamental tenet of liberal philosophy, which is the idea that interpersonal relationships are more favorable and conducive to peace than government-to-government interactions.[70]

Karl Deutsch was a pioneer in researching international relations in the 1950s. He tried with his colleagues to determine the extent of exchanges and interactions across societies. According to Deutsch, strong transnational linkages between societies provide harmonious relations that extend beyond the absence of conflict. Also, many sociological liberals believe that cross-national interactions between individuals from other nations contribute to developing new types of human society that coexist with or even compete with the nation-state. Sociological liberals like John Burton contend that mapping the patterns of interactions and trade between diverse groups will provide a more accurate depiction of the world than drawing artificial state borders since it will depict actual patterns of human interaction.[71]

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[69] Jørgensen, p.97.

[70] Robert Jackson and Georg Sorensen, pp.102-103.

[71] Robert Jackson and Georg Sorensen, p.103.

James Rosenau advanced the liberal sociological perspective on international affairs. Along with those carried out at the micro level by people, he concentrates on transnational connections at the macro level of human populations. He agrees with the liberal theory that peace will increase as the globe becomes more pluralistic and defined by transnational networks of people and organizations. Phil Cerny made the most recent sociological liberal statement. He emphasizes the various ways that the boundary separating domestic from foreign affairs is being questioned, which is causing the state to change. He states that political players with connections beyond international boundaries are the primary force behind this transition and rebuilding.[72]

Finally, the main approaches to sociological liberalism can be summarized as follows. International affairs experts investigate not just the relationships between national governments, but also the relationships between private persons, groups, and society. According to sociological liberalism, overlapping interdependent relationships between individuals tend to be more cooperative than ties between governments since states are exclusive and their interests do not overlap and crosscut. Thus, sociological liberalists believe a world with more global networks will be less chaotic.[73]

2.3.2. Interdependence Liberalism

A strong division of labor in the global economy, according to interdependence liberalism, enhances interdependence between governments, which deters and lessens violent conflict between countries. In his functionalist theory of integration, David Mitrany argued that more interdependence between nations in the form of transnational links could bring about peace. Built on Mitrany, Ernst Haas proposed a neo-functionalist theory of global integration. The idea of spillover, where greater collaboration in one area results in greater cooperation in other areas, is essential to this practical integration.[74]

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[72] Robert Jackson and Georg Sorensen, pp.104-105.

[73] Robert Jackson and Georg Sorensen, p.105.

[74] Robert Jackson and Georg Sorensen, pp.106-107.

Robert Keohane and Joseph Nye made a significant attempt to lay forth a broad theory of what they called complex interdependence. They assert that dependency in the post-World War II era is qualitatively distinct from interdependence in previous eras. When there is complex interdependence, many independent players and government departments are involved, there are numerous transnational relationships between people and organizations conducted outside of the state, and the use of armed force is less effective. As a result, internal politics and foreign relations are starting to parallel one another. Different concerns lead to various alliances inside and across governments and varying levels of conflict. In the end, complex interdependence evidently indicates that relations between nations are far more cordial and collaborative.[75]

Finally, interdependence liberalism asserts that the degree and extent of interdependence between states increase because of modernization. Military power is a less effective tool in the context of complex interdependence, and welfare is increasingly a nation's main objective and concern. As a result, according to interdependence liberalism, there will be stronger friendly relations between states.[76]

2.3.3. Neoliberal Institutionalism

International and intergovernmental organizations, according to neoliberal institutionalists, are essential in global politics. Although they consider security a crucial factor, they come to different conclusions on how to protect it effectively. Neoliberal institutionalists claim that establishing international organizations is the best way to promote security and collaboration. In this realm, communication on a range of topics, such as political, economic, security, environmental, and so on, is ensured by international organizations. Therefore, the underlying premise is that even in an anarchic international system, these international organizations offer the basis for cooperative and peaceful cooperation.[77]

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[75] Robert Jackson and Georg Sorensen, pp.107-108.

[76] Robert Jackson and Georg Sorensen, p.110.

[77] Kaufman, pp.83-84.

Neoliberals believe that this concept of absolute gains is more appropriate in situations where significant benefits for all parties are likely, and governments do not anticipate others threatening to use force against them. Hence, international organizations serve the self-interested needs of states and carry out crucial functions that improve cooperation. For instance, when institutions inform all parties and support the development of realistic commitments, the costs associated with creating, implementing, and monitoring rules and regulations are minimized.[78]

One of the most prominent proponents of neoliberal institutionalism is Robert Keohane. In his writings, Keohane focuses his attention on state interests and the roles played by international institutions. Neoliberal institutionalism raises issues about how institutions affect governmental activity and what drives institutional change.

It investigates both the objective self-perception of people as well as the material forces of international politics, presuming that nations are the primary players. In this area, Keohane blends international politics' conceptual and empirical aspects, distinguishes between theoretical stances and particular theories, and lays forth fundamental presumptions.[79]

Institutions and regimes, according to neoliberals like Keohane, are crucial since they allow governments to take actions that they otherwise would not be able to take. It is assumed that nations would probably depend more on regimes for their own self-interested objectives as interdependence and interconnection in international politics increase. Therefore, neoliberals perceive regimes more positively as genuinely enabling states to accomplish mutually profitable outcomes.[80] In the end, neoliberal institutionalism argues that the absence of trust and distrust between countries, which are seen as the typical issues linked with international anarchy, is alleviated by international institutions through fostering collaboration between states.

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[78] Paul R. Viotti and Mark V. Kauppi. *International Relations Theory* (Glenview: Pearson Education, 2012), p.148.

[79] Jørgensen, p.105.

[80] Viotti and Kauppi, p.149.

2.4. Constructivism

Constructivists place a strong emphasis on how reality is created socially. Human interactions, especially those between nations, are primarily composed of thoughts and ideas rather than primarily being influenced by external factors or events. This is constructivism's intellectually idealist aspect, which opposes the materialistic perspective of much social scientific positivism. According to constructivist philosophy, the social world is not a given; it does not exist outside of the minds and beliefs of those who are a part of it. As positivists and behaviorists assert, it is not an external entity whose rules can be uncovered by scientific investigation and described by scientific theory. Instead, everything that is a part of men's and women's social spheres is something that they have created. Hence, the social world is a domain of human awareness that comprises people's ideas, conceptions, languages, and discourses and the signs, signals, and understandings that people, particularly groups of people like governments and nations, use to communicate.[81]

Constructivists' significant ideational aspect is intersubjective beliefs, ideas, concepts, and assumptions broadly held among individuals. Though ideas can be held by many groups, including organizations, policymakers, social groups, or society, they must be broadly shared in order to be meaningful. Additionally, constructivists disagree with the idea of objective reality. They hold that there is no impartial foundation where we can determine what is true and that social scientists cannot get to a definitive conclusion about the world that holds across time and space. What is often referred to as reality is constantly linked to several prevalent perspectives.[82]

Constructivists define the structure in terms of interaction and common understanding. Although the structure is mainly described in cultural or ideational terms rather than material, international affairs can be understood as anarchic. States may face a security dilemma, but this problem is seen as an ideational social framework made up of intersubjective understandings where states are prone to make

[81] Robert Jackson and Georg Sorensen, pp.211-212.

[82] Robert Jackson and Georg Sorensen, pp.213-215.

incorrect assumptions about one another's motivations. Hence, such an ideational structure can influence the actions of both state and non-state actors.[83] Moreover, constructivists do not promote any agent, actor, or analytical unit. The agents/actors can be governments or non-state actors, such as individuals, groups, social movements, businesses, non-governmental advocacy organizations, or classes. All these non-state actors can have the capacity to affect the development of international conventions, identities, and state conduct, just as governments can influence non-state actors. As a result, these agents/actors influence structures and how they are transformed and generated. Therefore, agents/actors and structures mutually construct one another.[84]

For constructivists, identities can vary over time and within situations. Therefore, identities are not permanent traits of people, organizations, governments, or any other actor. Similar to how a state's interests are not given, identities are constructed. Therefore, the empirical research endeavor for constructivists is to investigate how interaction and context affect the formation of the self. Various factors can have an impact on identity. Broad cultural elements of a community or military doctrine originating from the internal distribution of political power are examples of domestic or endogenous causes. Ethnicity, gender, nationality, religion, and ideology can all impact one's sense of identity. International values, such as multilateralism, can serve as external or exogenous sources that help define a nation's identity and its role in international affairs.[85]

The constructivist idea of the logic of appropriateness brings identities, laws, and norms together. The logic of appropriateness assumes that human actors adhere to standards and regulations that link specific identities to specific contexts. Put another way, actions are more closely linked to identities shaped by rules and laws than self-interest. According to the identity approach, international relations participants behave according to socially constituted rules and norms. How international relations are depicted as a society of those connected to one another by sociocultural links, a

[83] Paul R. Viotti and Mark V. Kauppi, pp.284-285.

[84] Viotti and Kauppi, p.287.

[85] Viotti and Kauppi, p.288.

sense of identity, and intersubjective understandings.[86] According to constructivists, actors' interests are created by them and are prone to changes because of their interactions with others. They believe that interest in and perception of opportunities and threats are highly subjective, so these social relationships are dynamic. Therefore, international standards and a state's conception of its identity serve to enhance social interaction. All these elements influence a state's conception of its own national interests.[87]

Constructivism is significant in international relations theory thanks to Nicholas Onuf, who laid the groundwork for it. Since humans are social beings, Onuf's remark that "people make society and society makes people" is fundamental to constructivist thinking. Therefore, without social interactions, humans would not exist.

Its laws and institutions provide the structure or social order of the society in which people live. These norms and institutions were created by human activity, and they also give agents a foundation and framework in which to act. According to Onuf, institutions may apply to ideas like the balance of power, spheres of influence, treaties, international regimes, and actual structures.[88]

Friedrich Kratochwil and Rey Koslowski have argued similarly about norms, rules, and the interaction between structure and agency. They contend that players recreate or change systems through their activities in all politics, domestic and international. As a result, international systems survive not because their structures are unchanging but because people's actions reproduce them. When fundamental changes occur, it is because domestic actors' views and identities have changed, affecting the norms and standards that govern their political activities. As a result, if unique patterns arise, they can be recognized and clarified, even though they are unlikely to reflect predefined paths that general historical rules can describe.[89]

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[86] Viotti and Kauppi, p.289.

[87] Viotti and Kauppi, p.290.

[88] Viotti and Kauppi, pp.291-292.

[89] Lawson, pp.278-279.

Alexander Wendt is the most popular figure known for constructivism. According to Wendt, most neorealist and neoliberal theorists think that security is defined in terms of self-interest, rationalism is the theoretical preference through which they explain interactions between international states, and states are the major players in international politics. According to Wendt, the issue with rationalism is that it assumes the identities and interests of states to be unchanging, making it responsive to inquiries about variations in state behavior but resistant to inquiries about shifts in state identities and interests. The well-known phrase Wendt, "anarchy is what states make of it," sums up his position perfectly. Self-help and anarchy are valuable in social engagement. Thus, social actions taken by nations will either result in conflict or collaboration.[90]

According to Wendt, identities serve as the foundation for interests; therefore, actors identify their interests by defining circumstances. Institutions are generally static collections or structures of identities and interests that are frequently formalized as rules or norms. However, only an actor's instruction and participation in collective knowledge give institutions a motivating drive. Although self-help is an institution in anarchy, other types of institutions can also exist. Hence, there is an intersubjective construction of the identities and interests of structures and actors through socialization.[91]

2.5. Critical Theories

The prevailing realist and liberal views on international relations, which were perceived as maintaining the status quo and failing to address issues of power, oppression, and social justice, gave rise to critical perspectives. Critical theorists believe that to fully comprehend international relations, it is necessary to include the social, cultural, and historical dynamics that influence global dynamics in addition to states, rational actors, and material power. In this realm, post-structuralism, post-colonialism, and Marxism will be presented since these theories aim to highlight

[90] Cynthia Weber. *International Relations Theory: A Critical Introduction* (New York: Routledge, 2005), pp.61-65.

[91] Tim Dunne, Milja Kurki and Steve Smith (eds.), p.195.

disparities, reveal underlying kinds of power, and challenge prevailing discourses and practices.

2.5.1. Post-Structuralism

Post-structuralists oppose the concept of empiricism, which means that pure, objective observation is impossible. Thus, they believe that knowledge is not and cannot be impartial in terms of morals, politics, or ideologies. Every piece of knowledge reflects the viewpoints of the observer. Because knowledge is created from the social standpoint of the analyst, it is always prejudiced. Thus, knowledge reveals a tendency toward particular interests, ideals, groups, parties, classes, nations, etc. These theorists favor the premise that language is far more than just a tool for interaction. Engaging in a speech act to give the actions that make up social reality meaning is a process that is fundamental to human social interaction. Consequently, for post-structuralists, texts are tools of power, and there is a close connection between power and knowledge.[92]

Aside from issues of power and knowledge, poststructuralism is viewed as an effort to move beyond structuralism. Therefore, it is natural to be concerned about identity and identity politics questions. Moreover, poststructuralism uses a more expansive definition of representation, encompassing symbolic and metaphorical representations. Hence, it is evident that interpretation techniques are essential given the nature of representation. As a result, post-structuralists are particularly interested in three main themes: identity, knowledge/power, and representations/interpretation.[93]

One of the post-structuralist theorists, David Campbell, asserts that foreign policy is not a given action regarding interactions between nations. The process of creating a distinction between us and them is continuing. In other words, foreign policy is a constant game of power at all societal levels, where the precise definition of the threat posed by anarchy might take many different forms, including international

[92] Robert Jackson and Georg Sorensen, pp.233-235.

[93] Jørgensen, p.225.

terrorism, illegal immigration, or anything else. Therefore, since these borders also impact identities and the domestic social order, attention should be directed toward the discursive activity that creates them. Another post-structuralist thinker, Lene Hansen, thinks that making foreign policy involves more than just deciding on specific actions since it involves identity. Hence, the discourses through which facts and events are presented shape them. In this manner, Hansen demonstrates how discourse and the development of national identity are related.[94]

In conclusion, post-structuralism has emerged as a robust theoretical framework that challenges traditional notions of language, identity, and knowledge. By deconstructing established hierarchies and exposing the inherent contradictions and power dynamics within systems of meaning, post-structuralism encourages critical engagement and a deeper understanding of the complex nature of human experience. Its emphasis on the indeterminacy and instability of language highlights the potential for multiple interpretations and opens new avenues for creative thinking and social transformation.

2.5.2. Marxism

Marxism is a comprehensive explanation of political economy and, more specifically, a comprehensive theory of capitalism. Karl Marx, the father of the Marxist theory, strongly focused on dialectic, which refers to the conflicting or contradictory processes that arise throughout society. Much of his work was predicated on the assumption that there are unequal bonds between economic classes (bourgeoisie and proletariat), eventually resulting in a conflict between classes and states. Marx argued that when the proletariat revolted against the existing order and sought to seize control for themselves, the bourgeoisie would oppress the proletariat, eventually resulting in a type of conflict between classes.[95] Hence, the dynamics and the relations of production give rise to a particular mode of production, such as capitalism, which is founded on private ownership. Since economics, in the view of

[94] Robert Jackson and Georg Sorensen, pp.237-238.

[95] Kaufman, p.90

Marxists, is the foundation of politics, the bourgeoisie, which controls the means of production and dominates the capitalist economy, will govern politics.[96]

Marxism views international relations as equally defined by class conflict, with the wealthier states oppressing the underprivileged countries and the poor states fighting to obtain power. Due to this, socialism and communism developed as political and economic structures within states, together with an explanation for the conflict between capitalist and communist systems internationally.[97] Marxists believe that governments lack autonomy and are instead governed by the ruling class' interests, with capitalist states mainly being governed by the interests of their bourgeoisie. Therefore, conflicts between states need to be seen from the perspective of economic competition between the capitalist classes of various states.[98]

Marx's historical materialism is another crucial component of his theoretical framework. Beginning with the idea that people arrange their material reproduction naturally and socially, historical materialism asserts that humans become who they are in great part because of these social structures. Humans are social organisms that constantly recreate their environment through a jointly planned productive activity that includes thinking, communicating, planning, and organizing. This process involves the ongoing reproduction or transformation of the material world, social connections and ideas, and human beings themselves.[99] As a result, economic factors provide the structural framework for all other societal and political systems.

The Marxist ideology also emphasizes the uneven distribution of power and wealth. Regarding international affairs, Marxism gave rise to the dependence theory and the notion that wealthier countries gained at the expense of the weaker and less powerful nations that they conquered and exploited. The less developed nations in Africa, Latin America, and Asia subsequently became reliant on the states that had

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[96] Robert Jackson and Georg Sorensen, p.168.

[97] Kaufman, pp.90-91.

[98] Robert Jackson and Georg Sorensen, p.168.

[99] Griffiths, p.36.

conquered and oppressed them. Alongside dependency theory, Marxism also contributed to the rise of the world systems theory, which was developed by Immanuel Wallerstein. According to this theory, the world is not only divided into rich and poor or developed and less developed. Instead, it is divided into a core of strong and integrated countries, a periphery, or states that rely primarily on a pool of unskilled, low-wage labor, and a semi-periphery of countries that combine elements of both. The theory suggests that the core group of countries takes advantage of the countries in the periphery. It also emphasizes how the dynamics of the core states are altered by technological developments and financial moves, which cause people in the core states to rise and fall.[100]

In summary, Marxism views the economy as a setting for oppression and inequality between social classes, particularly the bourgeoisie and the proletariat. The socioeconomic environment largely influences politics. Political power also belongs to the dominant economic class. The bourgeoisie is, therefore, the dominating class in capitalist societies. The unequal growth of capitalism throughout the world will inevitably lead to conflicts between nations and social classes. Marxism thus focuses on the development of global capitalism, the conflicts between classes and nations that have resulted from it globally, and the potential for a revolutionary change in that society.[101]

2.6. Theories of International Relations and Climate Change

The analysis of the theories of international relations, namely realism, liberalism, constructivism, and critical theories regarding climate change reveals rich perspectives and insights. Each theoretical framework offers distinct lenses through which to understand and address the complex challenges posed by climate change. A thoughtful selection can be made by evaluating these theories, aligning the chosen framework with the specific research objectives, and providing a robust analytical framework for the dissertation's exploration of climate change phenomena.

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[100] Kaufman, pp.91-94.

[101] Robert Jackson and Georg Sorensen, p.173.

For realist thinkers, international anarchy is unavoidable because governments have little or no motivation to cooperate to solve common issues and because their views toward one another are shaped by a history of global conflict rather than cooperation. They are driven mainly by competition and the desire for relative power, especially dominance on the military or economic side. In reality, the motivation behind their interactions is the pursuit of relative gains compared to other states. Because of this, long-term collaboration is very unlikely unless it is launched and sustained by a single, strong state or hegemonic power.[102] In this regard, a realist way of thinking favors a climate treaty that includes binding restrictions on GHG emissions if doing so would better serve countries' national interests. This can also apply to climate adaptation and mitigation assistance to developing states. Adaptation and mitigation in developing states are not a matter of concern for developed countries since it provides them with no direct benefit or interest.[103] In conclusion, realism perceives climate change from the perspective of national interests and power dynamics at the global level.

The liberal and neo-liberal ideologies claim that collaboration among states functions effectively when there is peace and harmony in the world. Along this path, some suggest that many vulnerable developing countries could not be competitive trading and investment partners without assistance for adaptation and mitigation. Conflicts inside and across regions may also result from migration brought on by climate change. With that understanding, funds for adaptation and mitigation encourage developing states to combat climate change. In this realm, developed countries tend to finance adaptation since it is in their best interests. Notably, the fundamental principles of the UNFCCC and the Kyoto Protocol mirror the neoliberal economic tenets, such as the tolerable GHG concentration level established by cost-benefit analysis. Market processes also play a pivotal role in reaching this level at the lowest possible cost.[104]

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[102] Kate O'Neill. *The Environment and International Relations* (Cambridge: Cambridge University Press, 2009), pp.9-10.

[103] Gustavo Sosa Nunez and Ed Atkins. *Environment, Climate Change and International Relations* (Bristol: E-International Relations Publishing, 2016), p.15.

[104] Nunez and Atkins, p.16.

Anarchy is a challenge for neoliberal institutionalist intellectuals since the lack of central authority makes it simple for states to break their commitments to one another. Therefore, a single state could benefit from an international agreement without bearing any of the costs of change. In this case, no state cooperates, hoping to profit from other states' efforts. Neoliberal institutionalists, therefore, seek solutions to lessen these issues. They believe that the success of international cooperation depends on governments' ability to cooperate to achieve common goals and the establishment of institutions that can monitor compliance, boost transparency, lower transaction costs, and eliminate cases of cheating. Hence, they attribute key responsibilities to non-state entities such as the UN or NGOs in developing such openness and increasing the possibility of long-term cooperation agreements.[105]

Constructivists consider climate change a socially developed issue and strongly emphasize the influence of actors, ideas, and norms on how it is perceived and addressed. They claim that social interactions and shared perceptions among actors also contribute to climate change, which is not just a physical phenomenon. As actors' identities, attitudes, and interests shape how they view the issue, norms, and ideas are vital in determining how they respond to climate change.[106] Moreover, constructivists emphasize the significance of epistemic communities in the creation of knowledge and the shaping of policy discussions. In other words, transnational networks of scientists and policymakers would significantly impact the preparation of international agreements.[107] Constructivist explanations highlight their viewpoint by identifying the IPCC as an epistemic community that continues to influence the climate agenda through its regular scientific assessments.[108]

For constructivists, the way states estimate the costs and benefits related to different types of action can change in response to new concepts or norms. Nevertheless, on

[105] O'Neill, p.10.

[106] O'Neill, p.11.

[107] Urs Luterbacher and Detlef F. Sprinz (eds.). *International Relations and Global Climate Change* (Massachusetts: The MIT Press, 2001), p.61.

[108] Nunez and Atkins, p.18.

the other hand, these concepts and standards can influence how governments view their interests or positions in the global order.[109] Hence, they believe that social learning and introducing new ideas and norms can trigger views of climate change to shift over time. This underlines the need to comprehend this global issue's social and political aspects.

Critical theories offer a distinct perspective on climate change by focusing on the social, economic, and political structures contributing to its emergence and perpetuation. Critical theorists perceive climate change as a consequence of broader systems of power, exploitation, and inequality. They argue that climate change is intricately connected to capitalism, colonialism, and global order. Critical theorists highlight how these systems prioritize profit, growth, and the interests of the few over environmental sustainability and social justice. In that approach, the interests of global capital are prioritized above those of the states. To that purpose, global environmental regulation and other kinds of international collaboration mainly serve the interests of capitalist countries.[110]

Critical theorists also challenge the disproportionate impact of climate change on marginalized communities, emphasizing the intersectionality of race, class, and gender in shaping vulnerability and resilience. Hence, critical theory views climate change as a symptom of a deeper crisis and advocates for transformative change in social, economic, and political structures to address the root causes of the problem.[111] Therefore, critical theorists emphasize the significance of addressing social justice concerns, destroying systems of oppression, and promoting the perspectives and experiences of oppressed groups in the development and execution of climate change policies. These theorists support a comprehensive, equitable approach that tackles the root issues of climate change while promoting equity and justice for everyone.

In conclusion, the analysis of the theories of realism, liberalism, constructivism, and critical theories in the context of climate change has shed light on the diverse

[109] O'Neill, p.11.

[110] O'Neill, pp.17-18.

[111] O'Neill, pp.17-20.

perspectives and approaches available for understanding and addressing this pressing global issue. Each theoretical framework offers valuable insights and considerations, highlighting different aspects of the climate crisis. Based on this analysis, the theoretical perspective of the thesis will be presented in the next part.

2.7. Theoretical Perspective of the Thesis

Following a comprehensive exploration of international relations theories and their respective viewpoints on climate change, it is imperative to identify the theory that best aligns with the objectives of the dissertation. Given the specific focus of this thesis, which aims to analyze selected countries' approaches to climate change, their climate targets and strategies, their positions within the UNFCCC meetings, and their negotiation strategies with other states during these meetings, the neoliberal institutionalist theory emerges as the most valuable and impactful approach. This theory, characterized by its emphasis on cooperation, institutions, and market-based solutions, provides a robust framework to examine how countries engage with climate change internationally. By utilizing the neoliberal institutionalist perspective, the dissertation can offer valuable insights into the mechanisms, policies, and strategies employed by countries within climate change governance, contributing to a deeper understanding of the complex dynamics at play and the potential avenues for effective climate action.

More than any other international issue, global environmental issues emphasize nation-state interdependence. However, robust and systematic international collaboration is required to maximize mutual benefits. Hence, international collaboration is desired and required to solve the issues with collective action and minimize the negative impacts of interdependence. In this regard, international institutions, supported by environmental organizations, are essential for raising global awareness, lowering the costs of collaboration, and monitoring and implementing agreements that are achieved.[112] Therefore, neoliberal institutionalism places a significant emphasis on the role of institutions in shaping state behavior and facilitating cooperation. In the context of climate change, the UNFCCC and its

[112] O'Neill, p.12.

meetings are central to negotiating and implementing climate change agreements. Neoliberal institutionalism paved the way for analyzing how these institutions influence the behavior and strategies of India, South Africa, Germany, and the United States in addressing climate change, including their positions in the UNFCCC meetings and their negotiations with other countries.

Neoliberal institutionalism recognizes that states cooperate to maximize their interests within international institutions, so the theory acknowledges that states can achieve collective goals by negotiating and engaging in diplomatic efforts.[113] In the case of the thesis, neoliberal institutionalism is instrumental in examining how the selected countries negotiate climate change issues with other nations during the UNFCCC meetings. The theory helps analyze selected countries' approaches to achieving their climate change objectives through interactive arrangements. By delving into the intricacies of how states negotiate and interact within the context of UNFCCC meetings, the theory can offer valuable insights into the mechanisms by which selected countries pursue their climate change agendas, the factors influencing their choices of alliances and partnerships, and the effectiveness of their cooperative approaches in achieving tangible outcomes.

In summary, adopting neoliberal institutionalism as the theoretical framework for this thesis offers a comprehensive and highly relevant lens through which to analyze the intricate dynamics of climate change governance. This theoretical perspective considers the significance of institutions and the crucial aspect of compliance with international agreements. By employing neoliberal institutionalist theory, the thesis examines the nuances of how countries such as India, South Africa, Germany, and the United States approach the complex and urgent issue of climate change. It provides a platform to examine how these countries negotiate and interact with other nations, using diplomatic tools and forging alliances to shape the course of climate change policies and actions.

Additionally, this theoretical framework allows for an in-depth examination of the complicated interplay between national interests and climate change discussions,

[113] Yücel Bozdağlıoğlu and Çınar Özen. "Liberalizmden neoliberalizme güç olgusu ve sistemik bağımlılık." *Uluslararası İlişkiler Dergisi* 1, no:4 (2004), p.65.

shedding light on how countries navigate the complexities of balancing national priorities and sustainability imperatives within the context of international climate governance. By employing neoliberal institutionalism, the thesis has the potential to provide rich insights into the climate targets, approaches, and outcomes of these selected countries' engagements with climate change, contributing to a deeper understanding of the complex interplay between international institutions and compliance with international climate change agreements.

2.8. Conclusion

In conclusion, this chapter has undertaken an extensive and nuanced exploration of realism, liberalism, constructivism, and critical theories in the context of climate change. Each of these theoretical frameworks offers unique perspectives and valuable insights into the multifaceted nature of the climate change phenomenon, addressing aspects such as power dynamics, cooperative behavior, social constructions, and systemic inequalities. The analysis has revealed that each theory provides valuable contributions to understanding climate change, illuminating different dimensions of the issue, and highlighting various factors influencing its dynamics. However, upon careful examination and consideration of the research objectives of this dissertation, it is apparent that neoliberal institutionalism emerges as the most pertinent and comprehensive theoretical framework for comprehending the policies, perspectives, arguments, and positions of the selected countries on climate change.

Neoliberal institutionalism's primary focus on institutions, compliance with international agreements, and negotiation processes aligns remarkably well with the specific research goals of this study. By adopting neoliberal institutionalism as the theoretical lens, this research endeavor will be equipped to provide a comprehensive analysis of how India, South Africa, Germany, and the United States navigate the complex landscape of climate change. It will delve into how these countries engage in climate change negotiations within the UNFCCC meetings, exploring each country's climate targets, strategies, and approaches.

The selection of neoliberal institutionalism as the guiding theoretical framework promises to facilitate a comprehensive examination of the complexities and intricacies of the climate change issue. By applying this theoretical lens, the dissertation will contribute to a deeper understanding of how the selected countries navigate the global climate governance landscape. Overall, using neoliberal institutionalism ensures a robust and nuanced analysis of the chosen countries' approaches and actions related to climate change, offering valuable insights into the dynamics of international climate governance and the opportunities for collaborative efforts in addressing this urgent global challenge.

CHAPTER 3

DEVELOPMENT AND ARCHITECTURE OF THE UNFCCC

3.1. Before the UNFCCC

Throughout the 20th century, numerous environmental issues emerged as significant problems. Local issues evolved into regional or global challenges, such as when hazardous waste was exported for disposal internationally or when acid rain in northern Europe destroyed forests. As developing states industrialized, they faced many of the same issues as developed countries. Environmental destruction has been accelerated and influenced by globalization. Colonization was one form of globalization throughout the nineteenth and early half of the twentieth centuries.[114] To feed their expanding economies, European nations exploited raw materials taken from their colonies in various regions of the world. As many of these colonies gained independence after World War Two, globalization went through a shift. A new economic system was established, centered on economic expansion and the free flow of capital and goods. The global economic expansion also increased resource depletion and pollution. Transporting commodities globally negatively influences the environment, producing pollutants along the way and spreading invasive species to other ecosystems.[115]

Before the 1970s, most countries perceived global environmental challenges as peripheral to their main political interests and international relations in a broad sense. The increase of environmental movements in developed countries and the public appearance of global environmental challenges affecting the welfare of all humanity,

[114] Kate O'Neill. The Environment and International Relations. (New York: Cambridge University Press, 2009), pp.25-26.

[115] O'Neill, pp.25-26.

such as ozone depletion, climate change, and dangerous declines in the world's fisheries, elevated global environmental considerations to a much higher status in world politics. Global population, economic development, and environmental trends determine the primary drivers behind international environmental politics. The demographics, consumption of resources, and waste generation of humans all have the potential to put some stress on the ecosystem.[116]

The rapid population growth has impacted the environment by raising the demand for resources like energy, water, food, and wood, as well as the amount of waste produced, and pollution emitted. Given the predominant economic and social dynamics that have arisen since the Industrial Revolution, the environment has been seriously affected by the rapid rise of the human population during the past century and will continue to be affected for the rest of this century. The world's population was around 1.6 billion in 1900, while it exceeds 7 billion at present. Future population projections are based on birth rates, which are influenced by economic growth, education, mortality rates, and specific societal policies.[117] An increase in population and economic development boosts resource consumption and deepens the adverse effects of climate change, which points out the necessity of global action for combatting climate change. Despite the efforts to protect the environment, it was insufficient to minimize environmental degradation. Moreover, growing urbanization is related to higher levels of resource use as well as growing water and air pollution in many parts of the world. More than one million people die each year from pollution, which also produces tons of waste.[118]

Oran Young, a pioneer in the academic study of global environmental politics, classified international environmental challenges into four categories: commons, shared natural resources, transboundary externalities, and linked issues.[119]

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[116] Pamela S. Chasek, David L. Downie, and Janet Welsh Brown. *Global Environmental Politics*. (New York: Routledge, 2018), p.1.

[117] Chasek et al, p.2.

[118] Chasek et al, p.12.

[119] Oran Young, International Governance: Protecting the Environment in a Stateless Society (Ithaca, NY: Cornell University Press, 1994), pp.19-26.

Geographic locations, natural resources, and global components belonging to all humanity rather than any single country are called the commons. Physical or biological elements that reach into or even across the authority of two or more states are considered shared natural resources. Transboundary externalities come from actions that occur within particular states but impact the environment or people in other states, such as environmental pollution. The term linked issues refers to situations where efforts to solve environmental problems have unexpected results that influence other issues.

Ultimately, these international climate challenges forced countries to unite and establish global governance on the international environmental crisis. Therefore, with the lead of the UN, global environmental conferences started to be organized. These summits promoted international awareness, helped the development of vital environmental norms, principles, standards, and goals, and provided procedural frameworks to achieve these aims.[120]

The Stockholm Conference can be regarded as the beginning of a new age of global environmental cooperation. Delegates from 114 nations attended it, and it both established environmental goals and priorities for the global community and as a legal and political framework to accomplish goals and priorities.[121] The conference's agenda was mainly determined by wildlife conservation and maritime pollution.[122] These issues came to the agenda of the international community and the UN thanks to the efforts of the Swedish government. As a result of the conference, participating states agreed on The Stockholm Declaration, a non-binding declaration of 26 principles.[123] The declaration emphasizes international cooperation for a global commitment to protect resources and limit pollution. Participating countries also agreed on the Stockholm Action Plan, which includes 109 recommendations for

[120] O'Neill, p.27.

[121] Louis B. Sohn. "Stockholm Declaration on the Human Environment" *Harvard International Law Journal* 14, no:3 (1973), pp.423-424; Lorraine Elliott. *The Global Politics of the Environment.* (New York: Palgrave Macmillan, 2004), p.11.

[122] Elliott, p.8.

[123] Elliott, p.11.

specific actions such as resource management, pollution, and so on.[124] Hence, specific targets were set in this conference, demonstrating the cooperative engagement of states, which is in line with neoliberal institutionalism. The resolutions urged a prohibition on nuclear weapon testing that may produce radioactive fallout, a global databank for environmental information, the need to address issues related to the development and the environment, reforms in international organizations, and the establishment of an environmental fund.[125]

As stated above, the Stockholm Declaration is composed of 26 principles. According to Principle 1, everyone has a fundamental right to freedom, equality, and sufficient living conditions in a setting of a standard that enables a life of dignity and welfare. Humans also have an obligation to safeguard and restore the environment for both the present and future generations. Principle 2 states that protecting the earth's natural resources is necessary for current and future generations. Principle 3 states that preserving, developing, or expanding the earth's ability to generate essential renewable resources is necessary. Principle 4 states that humans have a specific responsibility to protect and sustainably manage the legacy of living creatures and their ecosystems. Hence, planning for economic growth must prioritize protecting the environment. According to Principle 5, the planet's non-renewable resources must be used to prevent the risk of their potential depletion and ensure that all people take part in the potential advantages. Under Principle 6, minimizing the emission of heat and harmful chemicals that exceed the environment's tolerance is essential. Countries are required to take all reasonable measures to avoid marine pollution, as stated in Principle 7. According to Principle 8, economic and social growth is necessary to guarantee a good living and working environment and enhance living standards.[126] Principle 9 states that environmental deficits caused by a lack of development and natural hazards constitute severe issues and are best addressed by accelerating development through the transfer of significant amounts of money and technological

[124] O'Neill, pp.11-28.

[125] Chasek et al, p.5.

[126] "Report of the United Nations Conference on the Human Environment". United Nations. November, 1973. Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/NL7/300/05/IMG/NL730005.pdf?OpenElement, p.4.

support. By Principle 10, environmental management in developing nations depends on price stability and sufficient profits for basic goods and raw resources. The environmental policies of all governments should, in accordance with Principle 11, support the current or prospective future growth of developing states. By considering the needs of developing nations, Principle 12 states that resources should be made accessible to protect the environment. Principle 13 indicates that governments should take an organized and coherent approach to their developmental plans. Principle 14 states that rational planning is crucial for resolving any conflict between the need for growth and safeguarding the environment. Principle 15 states that planning must be used for human inhabitants and urban development to minimize adverse environmental consequences and maximize everyone's social, economic, and environmental advantages. For Principle 16, demographic measures should be implemented where the speed of population increase, or exponential population densities are likely to negatively impact the human environment and hamper development.[127]

Planning, managing, or administering a state's natural resources must be left in the hands of professional national authorities, according to Principle 17. Principle 18 states that science and technology must be used to identify, prevent, and manage environmental threats. Under Principle 19, educating adults and children about environmental issues is crucial for preserving and enhancing the environment in all human dimensions. Under Principle 20, all nations should support scientific research and development related to environmental issues. Principle 21 states that counties have the responsibility to guarantee that activities within their control or authority do not harm the environment of other states or areas outside of national jurisdiction, as well as the sovereign right to utilize their resources in accordance with their environmental policies.[128]

Principle 22 indicates that nations should work together to enhance the development of international law regarding accountability and compensation for victims of pollution and other environmental harm caused by activities within or beyond the

[127] "Report of the United Nations Conference on the Human Environment", pp.4-5.

[128] "Report of the United Nations Conference on the Human Environment", p.5.

states' area of jurisdiction. Under Principle 23, it is critical to consider the extent to which standards applicable to the most developed nations may be applied and the dominant value systems in each nation. By Principle 24, all nations should work together to resolve international issues relevant to preserving and enhancing the environment. Principle 25 emphasizes that international organizations must play a coherent, effective, and dynamic role in preserving and enhancing the environment. The impacts of nuclear weapons and any other methods of mass devastation must be avoided, according to Principle 26.[129]

In addition to the Stockholm Declaration, the Stockholm Action Plan is another document adopted at the conference. 109 suggestions were presented in the Stockholm Action Plan, which covered human settlements, resource management, pollution, development, and the social aspects of environmental deterioration.[130] The proposals have been structured into an Action Plan that enables the identification of worldwide programs and activities across the borders of all subject areas. The primary elements that form the Plan are the global environmental assessment program, environmental management activities, and international measures to assist national and international assessment and management actions. Analysis and review, research, monitoring, and information sharing are all included in the global environmental assessment program. Goal setting, planning, and international consultations and agreements are all aspects of environmental management. The last supporting measures include technical collaboration, management, public communication, education, and training.[131]

Moreover, the conference established the United Nations Environment Programme (UNEP) for multilateral cooperation. The UNEP has become an arena for international environmental diplomacy and the development of international environmental law. Since its establishment, the UNEP has been the international body responsible for establishing the environmental agenda, fostering the practical implementation of the environmental dimension of sustainable development within

[129] "Report of the United Nations Conference on the Human Environment", p.5.

[130] Elliott, pp.11-12.

[131] "Report of the United Nations Conference on the Human Environment", p.6.

the UN system, and acting as a legitimate representative for the environment at a global level. The goal of the UNEP is to inspire, enlighten, and empower countries and people to enhance their living standards without compromising those of succeeding generations. The UNEP also seeks to foster partnerships in environmental protection. By focusing on the underlying causes of the three global crises of climate change, nature and biodiversity loss, and pollution and waste, the UNEP aims to bring about structural transformation for humans and wildlife.[132] Through the UN Environment Assembly, the UNEP collaborates closely with its 193 member states, members of civil society, industry leaders, and other significant groups and stakeholders to address environmental issues. The organization is home to the secretariats of important multilateral environmental treaties and environmental research organizations. The UNEP assists member states in ensuring environmental sustainability is considered when planning investments and development projects. The UNEP also makes available the necessary tools and technologies countries need to safeguard and recover the environment.[133]

All in all, the states gathered in Stockholm established protocols for achieving common environmental goals by incorporating the body of existing international environmental laws and treaties. In addition to founding the UNEP, the Stockholm Declaration and Stockholm Action Plan urged multilateral collaboration supported by reliable scientific knowledge, managed by international organizations, and bound by international law. As a result, the governance framework developed in Stockholm largely legitimized existing mechanisms of global environmental relations. Negotiating multilateral agreements by governments on a case-by-case basis was given the most significant attention. At this conference, the idea of national sovereignty was promoted by using the established channels of global governance, which increased state participation and the credibility of the process.[134] The consideration of the connection between environmental preservation and economic growth also originally began in Stockholm. Lead negotiators from developed states

[132] "About UN Environment Programme". United Nations Environment Programme. Retrieved from https://www.unep.org/about-un-environment

[133] "About UN Environment Programme"

[134] O'Neill, p.28.

initially tackled the issue of global environmental protection from an entirely environmental standpoint.

On the other hand, developing states were in the position that environmental goals should not hinder the ambitions of developing states' development goals. Therefore, these countries supported a balanced standpoint between development and the environment.[135] Regarding the achievements of the conference, it can be said that the Stockholm Conference brought governments together to debate environmental issues and provided a basis for developing international environmental law and intergovernmental cooperation. After its conclusion, the spirit of the Stockholm Conference provided the impetus for developments and initiatives at the national, regional, and international levels. At the national level, environmental ministries were established. At the regional level, environmental programs were initiated, and at the international level, various international environmental treaties were signed.[136] As a result, it can be said that the conference increased consciousness of the environment and created a ground for cooperation on environmental issues. After Stockholm, major environmental problems such as the protection of the atmosphere, freshwater and ocean resources, land resources, biological diversity and biotechnology, waste management, and issues related to urban settlements, poverty, and human health conditions continued to affect the international community.

In the years that followed the Stockholm Conference, scientific knowledge advanced, environmental NGOs' activities and expertise grew significantly, and there was a growing understanding that environmental problems required more than science and technology. This means that these problems must be addressed by increasing awareness of the complexities of social, economic, and political causes and outcomes. Nevertheless, despite numerous international environmental conferences and the ratification of several international environmental agreements, environmental preservation efforts have progressed slowly and unevenly.[137]

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[135] O'Neill, p.28.

[136] Paolo Galizzi. "From Stockholm to New York, via Rio and Johannesburg: Has the Environment Lost Its Way on the Global Agenda?" *Fordham International Law Journal* 29, no:5 (2005), p.967.

[137] Elliott, p.12.

In 1977, the UNEP formed An Ad hoc Committee of Experts to initiate a World Plan of Action on the Ozone Layer. Based in Geneva, the World Meteorological Organization (WMO) hosted the First World Climate Conference in 1979. A World Charter for Nature concentrating on the preservation and use of living natural resources was endorsed by the UN General Assembly in 1982 after the UNEP and the International Union for the Conservation of Nature (IUCN) announced the World Conservation Strategy (WCS) in 1980. The International Geosphere-Biosphere Programme (IGBP), sponsored by the International Council of Scientific Unions (ICSU), was established in 1984 to analyze the inter linkages between the earth's systems and determine how human activity has altered those systems. The Human Dimensions of Global Change Programme was launched in 1987 due to collaboration between the ICSU and the International Council of Social Sciences.[138] All these are clear examples of initiatives for environmental preservation after the Stockholm conference.

Despite the efforts, several environmental issues increased public interest. Several examples include the dioxin leak in Italy in 1976, the Amoco Cadiz oil disaster in France in 1978, the partial meltdown at Three Mile Island nuclear power station in the United States in 1979, and the methyl isocyanate gas leak in India in 1984. In 1986, a warehouse fire in Switzerland caused 30 tons of hazardous chemicals to spill into the Rhine. The 1986 Chernobyl nuclear power plant accident served as a powerful reminder of the global effects of pollution and sparked debate over state accountability, duty, and liability. These disasters were more generally seen as signals against uncontrolled industrialization and industrial pollution rather than as rare occurrences.[139] After several environmental disasters, governments signed some conventions to reduce or stop transboundary environmental deterioration in response to public concerns. These included agreements on acid rain (the 1979 Geneva Convention on Long-Range Transboundary Air Pollution), endangered species (the 1973 Convention on International Trade in Endangered Species), and ocean pollution (the 1972 London Dumping Convention and the 1973 International Convention for

[138] Elliott, p.13.

[139] Elliott, p.13.

the Prevention of Pollution from Ships).[140] The Vienna Convention for the Protection of the Ozone Layer, the first significant accord on the deterioration of the global atmosphere, was ratified in 1985. Governments set reduction goals in the Montreal Protocol on Substances that Deplete the Ozone Layer, which was signed two years later. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was ratified by 116 nations in 1989.[141]

After several environmental tragedies and international efforts to combat these challenges, environmental issues again became one of the critical issues of the international agenda in the 1980s. As a result, the concept of sustainable development had gained popularity by the middle of the 1980s. The World Commission on Environment and Development (WCED), also known as the Brundtland Commission, was created by the UN in 1983 to investigate how prospective economic and social growth could be influenced by environmental deterioration and the exploitation of natural resources. After its chairwoman, Norwegian Prime Minister Gro Harlem Brundtland, the commission was named Brundtland Commission. There were 23 people on the commission, representing 22 nations, and they all had different areas of expertise.[142] In 1987, the Commission published the Brundtland Report. The commission report was seen as a turning point in the history of environmental politics, partly because it contributed to formulating, promoting, and disseminating sustainable development. It also codified some of the core ideas of the growing sustainable development concept by drawing on and integrating the opinions and research of hundreds of individuals worldwide.[143]

According to the Brundtland Commission, sustainable development is "development that meets present needs without compromising the ability of future generations to meet their own needs"[144] The report, in general, challenged the dominant mindset,

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[140] Elliott, pp.13-14.

[141] Elliott, pp.13-14.

[142] Elliott, p.14; Chasek et al, p.32.

[143] Chasek et al, p.32.

[144] "Report of the World Commission on Environment and Development: Our Common Future". United Nations. March 20, 1987. Retrieved from https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf, p.41.

current economic and social structures, and social norms for failing to balance the needs. The report also argued that the resources and capacities of the earth's natural systems are limited and that maintaining current economic practices poses the danger of causing irreparable harm to the ecosystems on which all livelihoods depend.[145]

The concept of sustainable development underlines the necessity to reframe the term development. It asserts that the world's natural resources, including the ozone layer, biodiversity, and a stable climate, cannot be sacrificed for the sake of economic development. Therefore, the global financial system must emphasize the value of the planet's natural resources. This can be achieved by switching from fossil fuels to renewable energy sources, decreasing the number of resources consumed, and reusing items. It also necessitates the shift to sustainable population control methods, a more restrained approach to consumption, and measures to stabilize the global population.[146]

According to the sustainable development concept, everyone has an equal right to exploit the resources that our planet has to offer. The concept asserts the requirement for improved fairness between and within communities. The fundamental needs of people experiencing poverty should be met in developing nations without depleting their natural resources, while industrialized nations should reexamine their attitudes and behaviors toward the unusable and inefficient elements of their material possessions.[147] Therefore, with the publication of the Commission's report, the term sustainable development entered the environmental terminology on an international level.

One year after the publication of the Brundtland Report, the WMO and the UNEP founded the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC aims to deliver governments the scientific data they need to formulate their climate policies. Contributions from the IPCC reports are also essential in global climate change negotiations. Governments associated with the WMO, or the UN, comprise

[145] Chasek et al, p.32.

[146] Chasek et al, p.32.

[147] Chasek et al, p.32.

the IPCC, which has 195 members. The IPCC receives contributions from thousands of individuals throughout the world. A detailed explanation of what is known about the causes of climate change, its effects, and potential dangers, as well as how adaptation and mitigation might minimize those risks, is provided in the assessment reports by experts who dedicate their time as IPCC contributors. The IPCC has published five assessment cycles and five assessment reports since 1988, making them the most detailed scientific studies on climate change ever published. The IPCC has also prepared Various Methodology Reports, Special Reports, and Technical Papers.[148]

One year later, in 1989, the UN General Assembly (UNGA) approved a series of resolutions on the worldwide effects of environmental degradation. The fundamental necessity to tackle climate change as a matter of shared interest was underlined in the first UNGA resolution 44/207 titled 'Protection of the Global Climate for Present and Future Generations of Mankind'.[149] The second UNGA resolution, 44/224, named 'International co-operation in the monitoring, assessment, and anticipation of environmental threats and in assistance in cases of environmental emergencies', proclaimed that environmental degradation was one of the major global issues the world was experiencing.[150]

The third UNGA resolution, 44/228, titled 'United Nations Conference on Environment and Development', established the basis for the United Nations Conference on Environment and Development (UNCED), also called the Rio or Earth Summit.[151] The third UNGA resolution mentioned several significant environmental challenges, including safeguarding the atmosphere, freshwater and

[148] "History of the IPCC". The Intergovernmental Panel on Climate Change (IPCC). November 29, 2022. Retrieved from https://www.ipcc.ch/about/history/

[149] "44/207. Protection of Global Climate for Present and Future Generations of Mankind". United Nations General Assembly. December 22, 1989. Retrieved from https://digitallibrary.un.org/record/82494

[150] "44/224. International Co-Operation in the Monitoring, Assessment, and Anticipation of Environmental Threats and in Assistance in Cases of Environmental Emergencies". United Nations General Assembly. December 22, 1989. Retrieved from https://digitallibrary.un.org/record/82552

[151] "44/228. UN Conference on Environment and Development". United Nations General Assembly. December 22, 1989. Retrieved from https://digitallibrary.un.org/record/82555

ocean resources, land resources, biological biodiversity, biotechnology, waste management, urbanization, poverty, and health difficulties. In addition to highlighting the global nature of environmental issues, it pointed to unsustainable production and consumption practices, particularly in developed nations, as the primary contributor to much of that degradation. It emphasized the value of global collaboration, scientific research, and providing developing nations with access to technology as well as new and extra financial resources. Hence, a conference was necessary to formulate plans and policies to prevent and restore environmental deterioration and achieve sustainable development in all states.[152]

Following the UNGA resolutions, the First IPCC Assessment Report (FAR), published in 1990, emphasized the significance of climate change as a problem with global implications and the need for international collaboration. It played an essential role in the creation of the UNFCCC. The report has eleven sections, each assessing different aspects of climate change. These sections are GHG, radioactive forcing, processes, and modeling, validation of climate models, equilibrium climate change, climate changes caused by GHG over time, observed climate variations and change, GHG recognition in the analyzes, rise in water levels, ecosystems-related impacts and limiting the ambiguities.[153]

The report's significance stems from its statement that emissions led by human activity are significantly increasing GHG emissions, which in return increase global warming. Moreover, the report's scenarios predicted significant GHG emissions and global temperature increases in the coming decades. In this realm, the report proposes several guidelines, including increasing support for national and international climate research activities, facilitating the global exchange of climate data, enhancing systematic global observation of climate-related variables, and understanding various climate-related mechanisms.[154]

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[152] "44/228. UN Conference on Environment and Development"; Elliott, p.15.

[153] John T. Houghton, G.J. Jenkins and J.J. Ephraums (eds.) *Climate Change: The IPCC Scientific Assessment* (Cambridge: Cambridge University Press, 1990), pp.i-ii.

[154] Houghton et al., pp.xi-xii

All these issues revive the importance of international cooperation. As a result, to examine environmental and developmental challenges and agree upon a new agenda for the twenty-first century, the UNCED was held in Rio de Janeiro in 1992. 178 national delegations and over 1,400 NGO representatives participated in the conference to define strategies and measures to reverse environmental degradation.[155] As a result of the conference agreements, the Rio Declaration, Agenda 21, and the Statement of Forest Principles were adopted, and two separately negotiated conventions, the UNFCCC and the Convention on Biological Diversity (CBD), were opened for signature.[156]

This demonstrates the willingness of participants of the Rio Conference to fight environmental problems. The Rio Declaration on Environment and Development includes 27 principles that aim to create cooperation between states, societies, and people. The declaration is a guiding principle and standard for sustainable development. Humans are at the center of concerns for sustainable development, according to Principle 1.

According to Principle 2, states have a sovereign right to utilize their resources in line with their own environmental and development priorities, and they also have an obligation to ensure that actions under their authority do not harm the environment of other states or places outside of their borders. To address the developmental and environmental necessities of the present and future generations, Principle 3 states that the right to development must be achieved.

Environmental preservation is a crucial component of the development process, according to Principle 4. According to Principle 5, all states and individuals should work together to eliminate poverty. The specific circumstances and requirements of developing nations should be given special consideration, according to Principle 6. Under Principle 7, countries should work together in a spirit of global collaboration to maintain the ecosystem's health and integrity. States' obligations in this sphere are common but differentiated. Principle 8 emphasizes that states should prohibit

[155] Elliott, pp.15-17.

[156] Elliott, p.17.

environmentally harmful production and consumption practices and develop demographic programs.[157]

In line with Principle 9, governments should work together to advance scientific knowledge. By Principle 10, states should promote public engagement and understanding. Principle 11 states that countries should pass appropriate environmental protection laws. A cooperative and free global economic structure that would result in economic growth and sustainable development in all nations is a goal that governments should work together to advance, according to Principle 12. Principle 13 states that governments should create national legislation governing who is responsible for what kind of environmental harm and how much money they can be fined. According to Principle 14, states shall work together extensively to prohibit travel of any practices or chemicals that seriously damage the environment or are determined to be dangerous to human health.[158]

Under Principle 15, countries should adopt preventive methods in accordance with their capacity to safeguard the environment. Principle 16 states that national governments should work to encourage internalizing environmental costs and using financial tools. Environmental impact assessments should be conducted for planned activities, according to Principle 17. By Principles 18 and 19, countries are required to notify other states swiftly of any natural disasters or other events that might result in transboundary environmental impact. Participation of women, young people, and indigenous people is crucial to achieving sustainable development, according to Principles 20, 21, and 22.[159]

Principle 23 states that people oppressed, ruled over, or occupied land must safeguard their environment and natural resources. According to Principle 24, governments should enforce an international law that protects the environment

[157] "Rio Declaration on Environment and Development". United Nations General Assembly. August 12, 1992. Retrieved from https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf, pp.1-2.

[158] "Rio Declaration on Environment and Development", pp.2-3.

[159] "Rio Declaration on Environment and Development", pp.3-4.

during a military confrontation. According to Principle 25, environmental conservation, economic growth, and peace are interrelated and inseparable. Principle 26 emphasizes that governments should use adequate methods to address any environmental problems cooperatively. Principle 27 emphasizes that in order to carry out the Declaration's principles, governments and people must work together in a spirit of collaboration and good faith.[160]

Like the Rio Declaration, Agenda 21 is a non-binding accord. It outlines a comprehensive action plan for putting the Declaration's guiding principles into practice and attaining sustainable development in 40 chapters organized into a preamble and four sections.[161] Each chapter follows the same style, which includes a definition and explanation of the challenge, an outline of the suggested approach, and an estimated cost. Agenda 21's first section combines many chapters on social and economic issues, such as eradicating poverty, altering consumption behavior, controlling demographic trends, preserving human health, and human settlements. The chapters on the most significant environmental challenges are included in Section 2. These include climate, land resources, deforestation, desertification, and drought; sustainable agriculture and rural development; biodiversity; biotechnology; oceans; freshwater resources; and many elements of waste management. The emphasis of Section 3 is on enhancing the participation of the so-called main groups, which include women, children and youth, indigenous peoples, NGOs, local government, trade unions, commerce and industry, science and technology, and farmers. Regarding the methods of implementation, Section 4 includes fewer controversial parts on research, education, and capacity building, as well as financial resources and processes, technology transfer, institutional arrangements, and legal instruments.[162] As a result, the Rio Conference created momentum for environmental cooperation and commitment to cope with environmental problems.

The Rio conference is more sophisticated than the Stockholm conference since the former set a new sustainable development agenda. The conference laid a strong

[160] "Rio Declaration on Environment and Development", pp.4-5.

[161] Elliott, pp.19-21.

[162] Elliott, pp.19-20.

foundation for commitment to environmental protection.[163] Also, the Rio conference raised awareness of international society, and the feasibility of the conference needs to be judged by the processes it created rather than immediate outcomes.[164] Moreover, the conference sets a new consensus between developing and developed countries since it puts the environment and development together under sustainable development into the international agenda.[165] Therefore, the Rio Conference, with the participation of many more countries compared to the Stockholm Conference, is vital for encouraging international cooperation, agenda, and target setting on environmental issues. The conference was also critical since it paved the way for the establishment of the UNFCCC.

3.2. The UNFCCC

A major step toward formalizing international collaboration on climate change was the UNFCCC's emergence in 1992, which was consistent with neoliberal institutionalism's focus on the function of institutions to handle common climate issues. According to neoliberal institutionalism, international organizations develop stable expectations by establishing rules and norms that allow countries to collaborate despite competing national interests. Hence, the UNFCCC is a framework allowing countries to collaborate on complicated climate issues. The UNFCCC was opened for signatures during the 1992 Rio de Janeiro Earth Summit, with the CBD, the United Nations Convention to Combat Desertification (UNCCD), and a set of nonbinding forest management standards.[166] The convention is composed of 26 articles, and the objective of the UNFCCC is described in Article 2 of the convention as the following:

> "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with

[163] Peter M. Haas, Marc A. Levy, and Edward A. Parson. "How Should We Judge UNCED's Success?" Environment: Science and Policy for Sustainable Development 34, no:8 (1992), p.32.

[164] Johan Holmberg. “Judgement on Rio”, *People and the Planet*, 1, no:3 (1992), p.4.

[165] Galizzi, p.971.

[166] Jonathan Kuyper, Heike Schroeder, and Björn-Ola Linnér. “The Evolution of the UNFCCC”. *Annual Review of Environment and Resources*, 43 (2018), p.345.

> the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner."[167]

The UNFCCC was established as a framework agreement describing its structure and facilitating a process to achieve its ultimate goal, as defined in Article 2. Negotiations within this framework were expected to progress over time when new scientific findings, societal knowledge, and political changes arose.[168] The UNFCCC used the convention-protocol model, in which the organizational structure is formed under the convention and promised to overcome challenges through successive protocols.

Article 3 of the Convention defines the parties' guiding principles in their activities to fulfill the Convention's aim and carry out its obligations. The article states that based on equality, in line with their shared but differentiated responsibilities and various capacities, the parties should safeguard the planet's climate for the sake of both the current and future generations of humanity. Therefore, developed countries must take the initiative to tackle climate change and its negative consequences. At the same time, the specific needs of the developing countries need to be taken into account, as they are vulnerable to the negative consequences of climate change or carry an excessive or disproportionate burden as a result of the Convention.[169]

The article also states that the parties should adopt preventative actions to foresee, stop, or reduce the origins of climate change and its negative impacts by working together. In order to maximize global benefits at the minimum cost, policies and initiatives to combat climate change should be cost efficient. Such policies and initiatives must be comprehensive and address all significant elements of GHG and

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[167] "United Nations Framework Convention on Climate Change". United Nations. June 20, 1992. Retrieved from https://unfccc.int/resource/docs/convkp/conveng.pdf, p.4.

[168] Daniel Klein Maria Pia Carazo, Meinhard Doelle, Jane Bulmer and Andrew Higham. *The Paris Agreement on Climate Change: Analysis and Commentary*. (Oxford: Oxford University Press, 2017), pp.27-42.

[169] "United Nations Framework Convention on Climate Change", pp.4-5.

adaptation to reach this goal. Policies and actions to safeguard the climate system from human-caused activities should be tailored to each party's unique circumstances and linked with national development plans, considering that adopting policies to combat climate change is linked to economic development. As a result, the parties should work together to advance a cooperative and transparent multinational economic system that would result in sustainable economic growth and development for all parties.[170]

According to Article 4 of the Convention, all parties should prepare, regularly review, publicize, and make accessible their national GHG emissions to the Conference of the Parties; design, execute, publicize, and frequently update national and regional programs, incorporating measures to mitigate climate change by addressing GHG emissions; encourage sustainable governance; collaborate in planning for adaptation to the effects of climate change; incorporate climate change considerations in their relevant social, economic, and environmental policies and actions; encourage, collaborate, and exchange scientific, technological, economic, sociological, and legal information, incentivize and collaborate in education, training, and other forms of systematic observation.[171]

The same article also contains specific provisions for developed and other Annex I countries. To control GHG emissions, each party must implement national and regional policies and take the necessary actions to mitigate climate change, aiming to return individually or collectively to their 1990 levels. In order to achieve this, each of these parties needs to work in coordination with other parties while also identifying and routinely reviewing its policies and procedures.[172] In addition, developed countries, including in Annex II, should contribute extra financial resources to cover the approved total expenses borne by developing nations, support developing countries that are especially prone to the negative consequences of climate change, and use all feasible initiatives to enhance, facilitate, and finance the

[170] "United Nations Framework Convention on Climate Change", pp.4-5.

[171] "United Nations Framework Convention on Climate Change", pp.5-6.

[172] "United Nations Framework Convention on Climate Change", p.6.

dissemination of or access to ecologically sustainable technology and know-how to other parties.[173]

While realizing their obligations, Article 5 of the Convention states that the parties should support and develop intergovernmental programs and networks specifying, undertaking, evaluating, and funding research, data collection, and systematic observation, support international and intergovernmental initiatives to improve national scientific and technical research skills and knowledge and they should take into consideration the specific needs and concerns of developing countries. Moreover, according to Article 6 of the Convention, the parties shall empower the creation and management of educational and public awareness programs on climate change and its impacts, public access to information, public participation in addressing climate change and its effects, and training of relevant personnel while fulfilling their obligations.[174]

3.3. The UNFCCC Bodies

As the governing body of this Convention, the COP is established under Article 7. It is responsible for regularly reviewing how the Convention and any relevant legislative instruments are implemented. The COP reviews the obligations of the parties and institutional arrangements under the Convention regularly, encourages and facilitates the exchange of information regarding the measures taken by the parties to address climate change and its effects, encourages and directs the development and regular improvement of comparable methodologies, and evaluates the implications of the Convention's provisions based on all information made available to it, analyzes and adopts periodic reports on the Convention's implementation and ensures their publication, makes suggestions on any issues essential for the Convention's implementation, galvanizes financial means, establishes subsidiary bodies, reviews reports submitted by its subsidiary bodies, adopts rules for itself and its subsidiary bodies, collaborates with relevant

[173] "United Nations Framework Convention on Climate Change", pp.7-9.

[174] "United Nations Framework Convention on Climate Change", p.9.

international organizations, intergovernmental and non-governmental entities, and performs additional tasks as needed to meet the Convention's objectives.[175]

COP President is generally rotated among the five United Nations regional groups (Africa, Asia, Central and Eastern Europe, Latin American and Caribbean nations, and Western Europe and Others). The president is elected by unanimity right after the start of a COP session. Their purpose is to assist the COP's work and to incentivize agreements between the parties. Moreover, an elected Bureau supervises the functioning of the COP and each subsidiary body.[176] The COP Bureau comprises 11 officials: the President of the COP, seven Vice-Presidents, the Chairs of the two subsidiary bodies, and a Rapporteur. Each of the five United Nations regional groupings nominates two representatives, with one seat allocated for a Small Island Developing States (SIDS) representative. The COP appoints the Bureau officials from among the parties' representatives for one year. Even though the Bureau's tasks are not stated in the Convention or the draft rules, the Bureau primarily engages with procedural and organizational challenges originating from the COP and advises the COP President.[177]

The COP conferences are typically organized for two weeks. They are sometimes held together with the SBSTA and the SBI sessions. A few thousand people, including government delegations and observers, participate in the UNFCCC meetings.[178] Around 4.000 people participated in the first climate change conference, while more than 35.000 people attended the last conference.[179] This demonstrates that more people have been involved in climate change negotiations as the years pass.

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[175] "United Nations Framework Convention on Climate Change", pp.10-12.

[176] Climate Change Secretariat. *United Nations Framework Convention on Climate Change: Handbook*. (Halesworth: Technographic Design and Print, 2006), p.31.

[177] Climate Change Secretariat, p.31.

[178] Climate Change Secretariat, p.28.

[179] "Statistics on Participation and In-Session Engagement". United Nations Framework Convention on Climate Change. "2022. Retrieved from https://unfccc.int/process-and-meetings/parties-non-party-stakeholders/non-party-stakeholders/statistics-on-non-party-stakeholders/statistics-on-participation-and-in-session-engagement

The Convention, the Kyoto Protocol, and the Paris Agreement form the institutional framework for multilateral climate change procedures. In addition to the COP established in the Convention, the CMP functions as the meeting of the Parties to the Kyoto Protocol, and the CMA functions as the meeting of the Parties to the Paris Agreement. All parties to the Kyoto Protocol are involved in CMP, and all parties to the Paris Agreement are involved in CMA. Both CMP and CMA monitor the functioning of the Kyoto Protocol and Paris Agreement, respectively, and make decisions to facilitate the successful enforcement of these agreements.[180]

In Article 8, the Convention mentions the role of the Secretariat. The secretariat organizes meetings of the COP, and its subsidiary bodies established under the Convention, collects, and transmits reports submitted to it, facilitates support to the parties, prepares reports on its activities and presents them to the COP, ensures necessary communication with the secretariats of other relevant international bodies, enters into administrative and contractual agreements, and performs other relevant operations described in the Convention.[181] The secretariat is institutionally affiliated with the United Nations and is operated under UN laws. The secretariat was founded in 1992 when nations ratified the UNFCCC. The initial secretariat was in Geneva, Switzerland. Since 1996, the secretariat has been in Bonn, Germany. The Executive Secretary, who has the title of Assistant-Secretary-General, is assigned by the Secretary-General of the United Nations in coordination with the COP through its Bureau. The Executive Secretary regularly reports to the Secretary-General, and the COP keeps the secretariat accountable for its actions. Every two years, the Executive Secretary submits a program budget outlining the secretariat's essential duties over the next two years and the funds required to complete these duties.[182]

Before the UNFCCC conferences, the secretariat develops a tentative agenda for every UNFCCC meeting in consultation with the President. Issues emerging from the

[180] "Bureau of the COP, CMP, and CMA". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process/bodies/supreme-bodies/bureau-of-the-cop-cmp-and-cma#Meetings-of-the-Bureau-of-the-COP-CMP-and-CMA

[181] "United Nations Framework Convention on Climate Change", pp.12-13.

[182] Climate Change Secretariat, p.36.

Convention, issues agreed to be included on the tentative agenda by the previous meeting, anything on the agenda of a previous meeting that was not finalized at that meeting, things presented by a Party and accepted by the secretariat before the tentative agenda is publicized, and the budget proposal and organizational outcomes of issues emerging from the substantive agenda are all included on the tentative agenda.[183]

Articles 9 and 10 of the Convention establish two permanent subsidiary bodies: the SBSTA and the SBI. The SBSTA delivers timely information and advice on scientific and technological issues related to the Convention to the COP and its other subsidiary bodies. This body is interdisciplinary and available to participation from all parties. It comprises government representatives with relevant competencies who regularly report to the COP on all areas of its activity. The SBI supports the COP in assessing and reviewing the Convention's successful implementation. This body is open to participation by all parties and includes government officials who are professionals on climate change issues. It reports to the COP on all areas of its activity regularly.[184]

The Convention's fundamental working bodies are the SBSTA and the SBI. They gather for one to two weeks twice a year, usually in the middle of the year, and then with the COP. Due to the more scientific character of their work, they often comprise technical professionals rather than political officials, and they have fewer participants (about 1,500) than the UNFCCC meetings. The SB meetings are valuable milestones in the climate change process, but only the COP makes decisions. The significant outcomes of the SBSTA and SBI are thus proposals for draft decisions, which are subsequently sent to the COP for discussion and adoption. Furthermore, the SBs might adopt conclusions that will be included in their meeting reports. Each SBSTA and SBI has a Bureau. They consist of a Chair, a Vice-Chair, and a Rapporteur, all of whom typically serve for two years. The Chair, Vice-Chair, and Rapporteur are appointed based on equal regional representation.[185]

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[183] Climate Change Secretariat, p.29.

[184] "United Nations Framework Convention on Climate Change", pp.13-14.

[185] Climate Change Secretariat, p.33.

3.4. Other Bodies

The COP, the CMP, and the CMA also created other bodies that are essential to overcoming specific cases. The LEG was established in 2001 and is currently mandated to provide technical advice and assistance to the LDCs on the process of developing and implementing the NAPs, preparing and implementing the NAPAs, and conducting the LDC Work Program. In partnership with the GCF secretariat, the LEG is also tasked with providing technical assistance in obtaining funds from the GCF to develop and implement NAPs. Furthermore, the LEG is responsible for involving various organizations in implementing its work program.[186]

The parties agreed to create the AFB as the governing institution to control the Adaptation Fund under the authority and supervision of the CMP during the third session of the CMP in COP 13. The AFB is liable to the CMP, which makes final policy decisions for the Adaptation Fund. Moreover, the parties formed the Adaptation Committee (AC) as part of the Cancun Adaptation Framework in COP 16 to facilitate adaptation efforts consistently under the Convention and the Paris Agreement.[187]

In order to ensure full implementation of the Convention, COP 16 created a Technology Mechanism to assist the execution of increased initiatives on technological innovation and transfer to support adaptation and mitigation measures. The Technology Mechanism comprises the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN). As the Technology Mechanism's policy branch, the TEC researches and makes policy suggestions to promote developing and transferring low-emission and climate-resilient solutions.[188] The Standing Committee on Finance's mandate is to guide the COP in carrying out

[186] "Least Developed Countries Expert Group". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/LEG

[187] "Adaptation Fund Board". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process/bodies/constituted-bodies/adaptation-fund-board-afb

[188] "What are governing, process management, subsidiary, constituted, and concluded Bodies?". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process-and-meetings/what-are-governing-process-management-subsidiary-constituted-and-concluded-bodies

its functions regarding the Convention's financing instrument, including improving cohesion and collaboration in the transfer of climate change funding, rationalizing the financial mechanism, mobilizing financial resources, and measuring, reporting, and verifying support provided to developing country parties. It was formed at COP 16, and its tasks and functions were specified at COP 17.[189]

As the Technological Mechanism's operating body, the CTCN promotes technology collaboration to increase technological innovation and transfer and to help developing countries with their demand. An advisory board reports to the COP on behalf of the CTCN. The CTCN Advisory Board was created at COP 18 and provided direction to the CTCN on addressing demands coming from developing states and monitors, analyzes, and assesses the CTCN's performance.[190] The Warsaw International Mechanism Executive Committee was formed by COP 19 to manage the execution of the WIM responsibilities. The Executive Committee has a skilled technical group that assists it in carrying out its work in the four key areas: slow onset events, non-economic losses, comprehensive risk management, and displacement. The Paris Committee on Capacity Building (PCCB) was established by COP 21 as part of implementing the Paris Agreement to overcome existing and future challenges in capacity building implementation in developing country parties and to further enhance capacity building initiatives under the Convention.[191]

The Consultant Group of Experts on National Communications from parties not included in Annex I to the Convention was renamed the CGE at COP 24. In addition to helping developing countries to meet their reporting obligations under the Convention, the CGE promotes the realization of the Paris Agreement's improved transparency framework. This involves providing technical advice and support to developing country parties in preparation for their transparency reports and assisting the secretariat in implementing technical expert team training.[192] The Katowice

[189] "What are governing, process management, subsidiary, constituted, and concluded Bodies?".

[190] "What are governing, process management, subsidiary, constituted, and concluded Bodies?".

[191] "What are governing, process management, subsidiary, constituted, and concluded Bodies?".

[192] "Consultative Group of Experts". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/CGE

Committee of Experts on the Impacts of Response Measures (KCI) is a legal entity created at COP 24 to assist the forum's work program on the effect of response measure implementation on subjects relevant to response measures.[193] The Local Communities and Indigenous Peoples Platform (LCIPP) Facilitative Working Group (FWG) was formed by COP 24 to implement the LCIPP further and support the execution of three aspects related to knowledge, capacity for interaction, and climate change policies and actions. The FWG comprises officials of the parties and representatives of indigenous peoples' organizations.[194]

3.5. Groups of Parties in UNFCCC

The parties of the UNFCCC are mainly divided into four groups: Annex I parties, Annex II parties, non-Annex I parties, and the LDCs. Annex I parties comprise the OECD member developed countries and economies in transition (EIT) countries. Annex I parties pollute more than most developing states and have more robust economic and institutional capabilities to combat climate change. Annex II parties include the OECD members of Annex I without the EIT parties.[195] These countries contribute financial resources to support developing states' efforts to carry out the Convention's carbon reduction efforts and assist them in coping with the adverse effects of climate change. Additionally, they are responsible for realizing, utilizing, and delivering eco-friendly innovations to the EIT parties and developing states. Non-Annex I parties are composed chiefly of developing countries. Lastly, the LDCs are given special attention under the Convention due to their limited capabilities to combat global warming and cope with its adverse effects.[196] As of 2024, Annex I parties include 43 countries, non-Annex I parties include 106 countries, and the LDCs include 49 countries. In total, 198 countries are party to the UNFCCC.[197]

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[193] "Katowice Committee of Experts on the Impacts of the Implementation of Response Measures". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process-and-meetings/bodies/constituted-bodies/KCI

[194] "What are governing, process management, subsidiary, constituted, and concluded Bodies?".

[195] "Parties & Observers". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/parties-observers

[196] "Parties & Observers".

[197] "Parties to the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. 2024. Retrieved from https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states

The parties are also grouped within five regional groups: Western European and Other States, Latin American and Caribbean States, Asia-Pacific States, African States, and Eastern European States. However, numerous additional groupings are more critical for climate negotiations than the five regional groups, which cannot express the parties' core concerns and interests.[198] As of 2024, 14 party groupings in the UNFCCC process are demonstrated in Table 1.

The categorization is made by the coalitions' geographical scope, size, and formality. Geographical scope is essential since countries in the same region tend to share similar problems and follow similar approaches to combating climate challenges. The size of the coalitions determines the power of the group. This means that large coalitions tend to play a more vital and central role than small ones. The level of formality is about the institutionalization of the coalitions. Formal coalitions are institutionalized coalitions with better coordination among their members since they have better documentation procedures, staff, and resources. The table below shows that formal coalitions dominate the UNFCCC, while the geographical scope and coalition size are almost balanced.

Table 1: Party Groupings in UNFCCC

Coalition Name	Geographical Scope	Size	Formality
African Group of Negotiators (AGN)	regional	large	formal
Arab Group	regional	large	formal
European Union (EU)	regional	large	formal
Independent Alliance of Latin America and the Caribbean (AILAC)	regional	small	formal
Argentina, Brazil, and Uruguay Group (ABU)	regional	small	formal
Bolivarian Alliance for the Peoples of Our America (ALBA)	regional	small	formal
Alliance of Small Island States (AOSIS)	global	large	formal
Group of 77 and China	global	large	formal
Least Developed Countries (LDCs)	global	large	formal
Coalition for Rainforest Nations (CfRN)	global	large	formal
Like-Minded Developing Countries (LMDCs)	global	large	informal

[198] "Party Groupings". United Nations Framework Convention on Climate Change. 2024. Retrieved from https://unfccc.int/process-and-meetings/parties-non-party-stakeholders/parties/party-groupings

Table 1. (continued)

Brazil, South Africa, China, and India Group (BASIC)	global	small	informal
Environmental Integrity Group (EIG)	global	small	informal
Umbrella Group	global	small	informal

Source: UNFCCC Party Groupings and Author Compilation

Most parties are members of political negotiation groupings established based on their collective concerns. These groups can be created without following any formal procedures. They inform the COP Bureau, the SBs, or the secretariat once the parties have decided to establish them. They come together during meetings of the COP or the SBs. Their goal is to discuss issues with common concerns and exchange opinions.[199] The majority of the parties are also members of more than one coalition. The G-77/China is the most crucial coalition group representing 134 countries in climate change negotiations. The majority of the coalitions are formed as a subgroup coalition under the G-77/China, except for coalitions of the EU, the AOSIS, the EIG, the Umbrella Group, and the LDCs.[200]

The G-77 was established in 1964 as part of the United Nations Conference on Trade and Development (UNCTAD), and it currently operates within the UNFCCC and the other UN frameworks. Small island states, countries that export natural resources, the LDCs, developing states, and states with middle incomes form this group. The coalition speaks on behalf of members of the G-77/China.[201] As a body that promotes regional economic integration, the EU joined the Convention as a separate group. The EU member states and the European Commission meet privately to reach a consensus on stances. The state that holds the EU Presidency speaks for the EU and its members.

Additionally, some member states have been designated to lead bilateral discussions with other countries or organizations and may take the initiative on particular

[199] Climate Change Secretariat, p.49.

[200] Carola Klöck, Paula Castro, Florian Weiler, and Lau Øfjord Blaxekjær. *Coalitions in the Climate Change Negotiations* (New York: Routledge, 2021), p.5.

[201] Climate Change Secretariat, p.49.

subjects.[202] Small Island governments and coastal nations that face identical environmental issues and development problems, particularly their exposure to the adverse effects of climate change, have come together to form the AOSIS. The group was formed at the Second World Climate Conference in 1990. The AOSIS nations typically take a unified position in discussions because of the risk that climate change poses to their existence.[203]

The EIG was established at the twelfth session of the SBs, which took place in Lyon in 2000. It seeks to ensure environmental integrity in climate change discussions. It is one of the informal groups that unite Annex I and non-Annex I parties, with six members. The EIG creates shared positions and incorporates them into the climate change process, similar to most other party groupings.[204] A group of states called the Umbrella Group was established during COP 3 in 1997. The Umbrella Group's nine-member nations exchange information on matters of shared interest but do not have a unified stance. It is an informal group that unites Annex I and non-Annex I parties. LDCs are characterized by low income, inadequate social capital, and severe economic instability. These countries are highly vulnerable to climate change, including 49 countries.[205]

3.6. Other participants

Article 7 of the Convention states that anyone or any organization that is competent in the subjects included in the Convention and has informed the secretariat of their desire to be seated at a session of the COP as an observer may be accepted.[206] Hence, the IOs such as OECD, Organization of Petroleum Exporting Countries (OPEC), International Renewable Energy Agency (IRENA), and NGOs have participated in the UNFCCC meetings. NGOs participating in the UNFCCC process created

[202] Climate Change Secretariat, p.49.

[203] Climate Change Secretariat, p.49.

[204] Klöck et al, p.5; Climate Change Secretariat, p.50.

[205] Klöck et al, p.5; Climate Change Secretariat, p.50.

[206] "United Nations Framework Convention on Climate Change", p.12.

informal groupings known as constituencies, with various interests or positions generally acknowledged. These are business and industry NGOs (BINGO), Environmental NGOs (ENGO), Farmers, Indigenous peoples' organizations (IPO), Local government and municipal authorities (LGMA), Research and independent NGOs (RINGO), Trade union NGOs (TUNGO), Women and Gender, and Youth NGOs (YOUNGO). As of COP 28, there are 3.631 and 173 accredited NGOs and IGOs, respectively. In total, 3.804 organizations were admitted as an observer.[207]

In addition to the NGOs and the IOs, the UN organizations and institutions usually participate in convention conferences and have effective operational ties with the Convention. These UN organizations include but are not limited to the GEF, the IPCC, the World Bank, the World Health Organization (WHO), the WMO, the International Civil Aviation Organization (ICAO), the United Nations Industrial Development Organization (UNID), the International Atomic Energy Agency (IAEA), the World Trade Organization (WTO) and the International Maritime Organization (IMO). Secretariats and representatives from various environmental conventions also attend meetings of the COP and the SBs.[208]

Besides the NGOs, IOs, and UN agencies, the media also participates in the UNFCCC events. The media plays a crucial role because of their ability to increase consciousness and promote the world's public's reaction to the issues posed by climate change. The COP and the SB meetings are attended by licensed press and broadcast media professionals. In order to gather information for newspapers, television, radio, or news media, media representatives observe official meetings, participate to side events and press conferences, and interview important figures at COPs.[209]

3.7. Financial Mechanism

Since considerable resources at a broad level are needed to reduce pollution, climate financing is necessary for mitigation. Due to the considerable financial resources

[207] Climate Change Secretariat, pp.62,63; “Statistics on Participation and In-Session Engagement”.

[208] Climate Change Secretariat, pp.61-62.

[209] Climate Change Secretariat, p.64.

required to mitigate the negative consequences and challenges of a changing environmental condition, climate financing is equally vital for adaptation. As a result, as Article 4 of the Convention states, the parties with more financial resources support the less wealthy and vulnerable parties. This acknowledges the vast disparities in how much each country contributes to climate change and how well-equipped they are to combat it and deal with its effects.[210] Therefore, developed countries should contribute financial resources to help developing countries achieve the UNFCCC's goals.

In addition, developed countries should keep in charge of securing funding for climate change from various sources, tools, and channels while acknowledging the vital contribution of public finances and considering the requirements and expectations of developing countries. All governments and other stakeholders shall identify and evaluate the financial requirements of developing states and how these financial resources might be delivered. The resource allocation needs to work toward balancing mitigation and adaptation.[211]

The Convention established a financial system to enable developing states' access to funds, and both the Kyoto Protocol and the Paris Agreement benefit from this funding structure. Article 11 of the Convention mentions financial mechanisms. The article states that all parties should be fairly and equally represented under an accountable governance framework in the financial mechanism. Developed and developing countries may also provide the financial resources necessary for the Convention's implementation through bilateral, regional, and other multilateral networks.[212] Concerning Article 11, Article 21 of the Convention states that the UNEP, the International Bank for Reconstruction and Development (IBRD), and the GEF shall jointly operate the financial mechanism referred to in Article 11 as the international body charged with its interim governance. In this regard, the GEF needs to be adequately reconfigured to meet Article 11's obligations.[213]

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[210] "United Nations Framework Convention on Climate Change", p.8.

[211] "United Nations Framework Convention on Climate Change", p.8.

[212] "United Nations Framework Convention on Climate Change", pp.14-15.

[213] "United Nations Framework Convention on Climate Change", p.15.

Since the Convention was enacted in 1994, the GEF has been serviced as a component of the financing system. The GCF was created at COP 16 in 2010, and the parties recognized it as an operational entity of the financial mechanism in 2011. The COP, which determines its rules, program goals, and eligibility requirements for financing, is responsible for holding the financial mechanism accountable. The parties introduced the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF) as two special funds in addition to giving direction to the GEF and the GCF. The parties also established the AF in 2001 in line with the Kyoto Protocol.[214]

The GCF is the most prominent climate fund in the world, and it aims to assist developing states in achieving their NDC aspirations for lowering emissions and increasing capabilities to combat climate change. Following a country-driven strategy, in which developing nations lead the GCF programming and implementation, is a fundamental GCF philosophy. Achieving the goals of the NDC through climate action is made possible by developing states' ownership of the GCF financing decisions.[215]

The capacity building assistance provided by the GCF's Readiness Program, which is accessible to all developing countries, serves as the foundation for its country-driven strategy. In order to create and carry out projects, the GCF collaborates with developing nations directly through a network of more than 200 registered businesses and partner organizations. International and national commercial banks, regional and national development financing organizations, institutions that manage equity funds, United Nations agencies, and civil society groups are some partners of the GCF. Through this transparent collaboration, the GCF promotes partnerships between private investors, donor agencies, and civil society groups to bring revolutionary change and encourage standardizing standards and practices.[216]

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[214] "Introduction to Climate Finance". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/topics/introduction-to-climate-finance

[215] "About GCF". Green Climate Fund. 2022. Retrieved from https://www.greenclimate.fund/about

[216] "About GCF".

The GCF can organize its financial assistance through a flexible combination of grants, concessional debt, guarantees, or equity instruments to promote hybrid financing and crowd-in-private investment for climate action in developing countries. Due to its adaptability, the fund can trial new financing models to promote the development of the green market. The GCF is required to devote 50% of its funds to grant-equivalent mitigation and 50% to adaptation.[217] The least climate-resilient states, such as the SIDS, the LDCs, and African States, must receive at least half of their adaptation resources. The GCF framework emphasizes the need to increase measures for both adaptation and mitigation. In order to reduce possible trade-offs between adaptation and mitigation, the GCF promotes harmonization.[218]

In developing states, the GEF is another funding source for initiatives to conserve biodiversity, restore the environment, minimize pollution, and combat climate change. It provides funding for national environmental programs and agreements that have a global impact. The GEF collaboration unites its 184 member countries with civil society, indigenous peoples, and the commercial sector for effectiveness. It also works in coordination with other environmental donors.[219] The GEF has contributed more than $22 billion in grants and blended financing over the past three decades, as well as $120 billion in additional co-funding for more than 5,000 national and regional projects and 27,000 community-led initiatives through its Small Grants Program. Developing states can use the GEF financing to help them achieve the goals of global environmental commitments. Government agencies, civil society groups, private sector firms, and other partners support implementing initiatives and programs linked to environmental conservation, preservation, and restoration.[220]

One of the world's first global climate adaptation financing tools, the SCCF, was established at COP 7 to assist vulnerable countries in tackling the adverse effects of climate change. The SCCF concentrates on the SIDS in their adaptation objectives,

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[217] "About GCF".

[218] "About GCF".

[219] "Who We Are". The Global Environment Facility. 2022. Retrieved from https://www.thegef.org/who-we-are

[220] "Who We Are".

technology transfer, private sector involvement, and adaptation in all developing states. The SCCF has contributed $363 million to 88 projects in the 20 years since its creation.[221] Around one-third of the SCCF activities aim to provide access to better climate information services.

The SCCF emphasizes promoting innovation that can develop options for climate change adaptation. The SCCF has supported initiatives that have improved agriculture, water resources, disaster risk reduction, infrastructure, climate information systems, natural resource management, integrated coastal zone management, and disease prevention related to climate change. Additionally, the SCCF funding assisted public infrastructure such as schools, roads, and ports in becoming more climate resilient, promoted the creation of disaster risk insurance, and assisted small and medium-sized businesses in their adaptation efforts. The GEF manages the SCCF, which runs jointly with the LDCF.[222]

Similar to the SSCF, the LDCF was also established at COP 7 to answer to the diverse needs of the LDCs, which are particularly exposed to the negative consequences of climate change more than other countries. Assistance from the LDCF enables governments to carry out the NAPAs, which are country-driven plans for meeting their most urgent adaptation requirements. Additionally, the LDCF supports the UNFCCC's Work Program for the LDCs and the execution of the NAPs.[223]

In collaboration with partner organizations, the LDCF strengthens technical and institutional capacity at the national and local levels, fosters innovation, and engages the business sector. It also works to minimize systemic obstacles to development and to stimulate investment in adaptation tools. Concerning sensitive areas, including agriculture, water, disaster risk reduction, coastal zone management, infrastructure,

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[221] "Special Climate Change Fund – SCCF". The Global Environment Facility. 2022. Retrieved from https://www.thegef.org/what-we-do/topics/special-climate-change-fund-sccf

[222] "Special Climate Change Fund – SCCF".

[223] "Least Developed Countries Fund – LDCF". The Global Environment Facility. 2022. Retrieved from https://www.thegef.org/what-we-do/topics/least-developed-countries-fund-ldcf

and sustainable alternative livelihoods, the LDCF assistance has covered a variety of adaptation objectives in the LDCs. One of the largest portfolios of the LDC adaptation projects is held by the LDCF in international financing. The LDCF has granted almost $1.7 billion to 365 projects and supporting activities.[224]

The AF is another fund created in COP 7 in 2001 to provide funding for pragmatic adaptation initiatives and programs in the Kyoto Protocol-signatory developing states that are particularly prone to the negative consequences of climate change. Introducing direct access allows verified National Implementing Entities (NIEs) to directly access climate funding and run projects from planning through execution while strengthening the nation's own local and national adaptability. The AF has demonstrated its success as a highly efficient and transparent fund for channeling adaptation finance to developing states. Accredited National Implementing Entities, Multilateral Implementing Entities, and Regional Implementing Entities carry out AF-funded projects worldwide.

Additionally, the fund has an expanding Readiness Program that offers workshops for strengthening the capacity, small grants for technical assistance, and south-to-south collaboration to make it easier to accredit new implementing entities and reach more communities that urgently need climate adaptation innovations.[225] The AF has contributed $923.5 million to initiatives and programs since 2010 with 132 projects. The Fund receives funding from public and private sources and a two percent share of the revenues from Certified Emission Reductions (CERs) granted through the CDM projects under the Kyoto Protocol.[226]

3.8. Other Procedural Articles of the UNFCCC

Article 12 of the Convention mentions the communication between the parties and the COP. Each party is expected to share the following information with the COP:

[224] "Least Developed Countries Fund – LDCF".

[225] "Funding". The Global Environment Facility. 2022. Retrieved from https://www.thegef.org/who-we-are/funding

[226] "About the Adaptation Fund". Adaptation Fund. 2021. Retrieved from https://www.adaptation-fund.org/about/

National emissions, a basic outline of the actions the party has taken or has planned to take to enforce the Convention, and any other information the party believes is essential to fulfilling the Convention's aim.[227] In the following article, the ways of dealing with implementation-related questions are stated, so Article 13 states that the development of a multilateral consultative mechanism to address matters relevant to the Convention's implementation can be initiated by the COP. Article 14 of the Convention defines the ways to resolve disputes between the parties. According to the article, if there is a disagreement between two or more parties regarding how the Convention should be interpreted or applied, the parties involved must attempt to resolve the disagreement through dialogue or any other peaceful practices of their preference. The parties can make submissions to the International Court of Justice or choose arbitration under guidelines that the COP will decide.[228]

It is stated in Article 15 of the Convention that any party can suggest changes to the Convention. Any change request to the Convention must be agreed upon by consensus, and the parties need to use all feasible efforts to achieve it. The following Article regulates the adoption and modification of the Convention's annexes. Annexes of the Convention are an integral part of the Convention, and it also needs to be agreed upon by consensus by the parties. In addition to amendments and annexes, Article 17 of the Convention mentions protocols. The COP has the authority to adopt protocols for the Convention. A protocol can be signed only by the parties to the Convention. In this realm, only the parties to the relevant Protocol may adopt decisions under any Protocol. The following article regulates the right to vote, so according to Article 18, each country has one vote. Article 19 assigns the depositary of the Convention and its protocols to the Secretary-General of the United Nations.[229]

All countries that are members of the UN can sign the Convention according to Article 20. Article 21 establishes an interim secretariat until COP 1, and this secretariat is expected to collaborate with the IPCC. Also, the GEF, the UNDP, the

[227] "United Nations Framework Convention on Climate Change", pp.15-16.

[228] "United Nations Framework Convention on Climate Change", pp.17-18.

[229] "United Nations Framework Convention on Climate Change", pp.18-19.

UNEP, and the IBRD are selected as interim bodies for executing financial mechanisms. After signing the Convention, states must ratify, adopt, or join it before executing it according to Article 22. The remaining articles (23,24,25,26) of the Convention briefly mention the Convention's entry into force, reservations, withdrawal, and authentic texts, respectively.[230]

3.9. Conclusion

This chapter elaborated on the history of the UNFCCC, starting from the 20th century. The emergence of various environmental challenges caused mainly by a rapid expansion of economies and populations has forced countries to come together and deal with these challenges internationally. In 1972, the first global environmental conference was organized for the sake of the protection of the environment. The Stockholm Declaration and the Stockholm Action Plan were two key documents adopted at the conference. These documents determined environmental priorities and established a legal and political framework for international cooperation on environmental issues. The conference also paved the way for the creation of the UNEP, a body for environmental agenda-setting, implementing environmental goals, and fostering international cooperation.

Several international environmental conventions were signed in the following years of the Stockholm Conference. However, these conventions could not prevent the incurrence of accidents related to the environment. Hence, with the initiative of the UN, the Brundtland Commission was established, and the Commission prepared a report in 1987 named "Our Common Future".

The report is a turning point in the history of international environmental cooperation since it contributed to formulating, promoting, and disseminating sustainable development. After the publication of the Brundtland Report in 1988, the IPCC was formed. The IPCC is another crucial body that delivers scientific data to governments since they need to formulate their climate policies.

[230] "United Nations Framework Convention on Climate Change", pp.20-22.

In 1989, the UNGA adopted a series of resolutions on environmental degradation, which paved the way for the Rio Summit. In 1992, the second global environmental conference was organized to discuss environmental and developmental issues. As a result of the conference, the Rio Declaration, Agenda 21, and the Statement of Forest Principles were adopted. In addition, two separate negotiated conventions, the UNFCCC and the CBD, were opened for signature. The UNFCCC is composed of 26 articles, and its main objective is to reduce GHG emissions and, at the same time, ensure sustainable development. The UNFCCC has different bodies that implement the convention. These are the COP, the CMP, the CMA, the Secretariat, the SBSTA, and the SBI. Other bodies were also established to support the central bodies, such as the LEG, the AFB, the TEC, the CTCN, the CGE, the KCI, and the FWG.

Besides the bodies of the UNFCCC, parties of the convention are divided into four groups: Annex I parties, Annex II parties, non-Annex I parties, and the LDC. 14 party coalitions with different geographical scopes, sizes, and formalities were formed for better climate negotiations. Most of the parties were members of more than one coalition, demonstrating the parties' diverse concerns. The party representatives, the IOs, the NGOs, the UN institutions, and the media representatives attend climate change negotiations. Rounds of climate meetings are critical for global cooperation for environmental preservation and climate change adaptation. However, it requires considerable financial support. In this realm, various financial mechanisms were introduced to support the parties. These mechanisms comprise the GEF, the GCF, the SCCF, the LDCF, and the AF. All in all, the Convention is vital for establishing commitments, providing technical, scientific, and financial support, and creating an arena for international environmental cooperation.

The UNFCCC's history and structure contain neoliberal institutionalist principles, illustrating how international institutions develop frameworks to solve complex, cross-border issues, such as climate change. Even when nations have conflicting interests, neoliberal institutionalism highlights that institutions lower uncertainty and build trust. Also, through the establishment of guidelines, standards, and support structures, the UNFCCC facilitates international cooperation on challenging climate issues. Additionally, the UNFCCC's various entities emphasize the institutional

framework that encourages a more effective and inclusive response to climate challenges. In the end, this cooperative framework reinforces the neoliberal institutionalist perspective that institutions are essential for managing global challenges since they provide continuity, accountability, and negotiation arena for countries.

CHAPTER 4

EVOLUTION OF CLIMATE REGIME THROUGH THE UNFCCC COP'S

4.1. Introduction

The UNFCCC meetings serve as an instance of how international organizations can promote interaction and address issues with collective action when tackling global issues. From the perspective of neoliberal institutionalism, these gatherings, which bring together representatives from nations, NGOs, IOs, and other non-party stakeholders to discuss and negotiate climate change actions, are essential venues that lower transaction costs and information asymmetries. These meetings show how institutions can support governments through multilateral collaboration, coordinate international efforts to address and adapt to the effects of climate change, and reduce GHG emissions. Therefore, neoliberal institutionalism recognizes these meetings as essential to promoting international cooperation since they establish an institutional framework that allows participants to discuss and agree on funding for climate-related initiatives, as well as to share best practices and information. Consequently, the UNFCCC meetings serve as a great representation of how international organizations can foster collaboration and mutually beneficial outcomes in tackling climate change.

Following the Convention's entry into force in 1994, the UNFCCC meetings were held annually. These gatherings have evolved in response to the increasing urgency of climate change issues. The meetings have become increasingly focused on negotiating and implementing specific actions to reduce GHG emissions and adapt to the effects of climate change over time. These meetings typically cover a wide range of climate change-related topics, such as GHG emissions, climate finance, adaptation, mitigation, capacity building, international cooperation, and issues

related to the implementation of the Convention, Kyoto Agreement, and Paris Agreement. From 1995 to 2023, 28 UNFCCC meetings were held in different cities. Since COP 11, the CMP was convened to promote the implementation of the Kyoto Protocol. As of COP 22, the CMA took place to promote the implementation of the Paris Agreement. The list of the meetings of COP, CMP, and CMA is presented in Table 2. The table also presents the years and the cities that hosted these meetings. This chapter will present the context, progress, and outcomes of these meetings to demonstrate the evolution and efforts of climate change mitigation.

Table 2: UNFCCC Climate Conferences

UNFCCC Climate Conferences				
CITY	**YEAR**	**COP**	**CMP**	**CMA**
Berlin	1995	COP 1		
Geneva	1996	COP 2		
Kyoto	1997	COP 3		
Buenos Aires	1998	COP 4		
Bonn	1999	COP 5		
The Hague	2000	COP 6-1		
Bonn	2001	COP 6-2		
Marrakech	2001	COP 7		
New Delhi	2002	COP 8		
Milan	2003	COP 9		
Buenos Aires	2004	COP 10		
Montreal	2005	COP 11	CMP 1	
Nairobi	2006	COP 12	CMP 2	
Bali	2007	COP 13	CMP 3	
Poznan	2008	COP 14	CMP 4	
Copenhagen	2009	COP 15	CMP 5	
Cancun	2010	COP 16	CMP 6	
Durban	2011	COP 17	CMP 7	
Doha	2012	COP 18	CMP 8	
Warsaw	2013	COP 19	CMP 9	
Lima	2014	COP 20	CMP 10	
Paris	2015	COP 21	CMP 11	
Marrakech	2016	COP 22	CMP 12	CMA 1
Bonn	2017	COP 23	CMP 13	CMA 1-2
Katowice	2018	COP 24	CMP 14	CMA 1-3
Madrid	2019	COP 25	CMP 15	CMA 2
Glasgow	2021	COP 26	CMP 16	CMA 3
Sharm El Sheikh	2022	COP 27	CMP 17	CMA 4
Dubai	2023	COP 28	CMP 18	CMA 5

Source: UNFCCC

4.2. Foundational COPs (COP 1-COP 3)

From March 28 to April 7, 1995, Berlin hosted the first conference of the parties to the UNFCCC. Around 4,000 participants from the parties, observer institutions, and media representatives were present at the first meeting.[231] Before agreeing on what many considered the critical issue prior to COP 1, participants had to engage, which seemed like endless discussions and talks due to their drastically divergent objectives and concerns. In the meeting, 21 significant decisions were reached by the parties. The biennial budget for 1996–1997 was approved. Delegates also decided that the GEF would keep acting as the transitional source of finance. The subsidiary bodies have been formed, and their first meeting was scheduled for October. Ad hoc Group on the Berlin Mandate (AGBM) was formed as a separate body for drafting legally binding protocol and setting commitments in the post-2000 period. In order to reduce GHG emissions in developed states, the Berlin Mandate urges governments to set clear, legally enforceable objectives and timelines.[232]

In addition, the COP decided to prepare and submit national communications from the parties listed in Annex I, receive the first communications from the parties not listed in Annex I, make agreements with the operating entity or entities of the financial mechanism, and give the operating entity or entities of the financial mechanism initial guidance on policies, program priorities, and eligibility requirements. Finally, the parties concluded that Bonn would be the best location for the Permanent Secretariat to be established. The decision on the rules of procedure, voting procedures, and makeup of the Bureau was postponed to COP 2.[233]

Geneva hosted the second COP from July 8-19, 1996. Around 1,500 representatives from the parties and observer organizations participated in COP 2.[234] In this meeting,

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[231] "Statistics on Participation and In-Session Engagement."

[232] "Report of the Conference of the Parties on its First Session, Held at Berlin From 28 March to 7 April 1995". United Nations. June 6, 1995. Retrieved from https://unfccc.int/cop4/resource/docs/cop1/07a01.pdf ,pp.1-6.

[233] "Report of the Conference of the Parties on its First Session, Held at Berlin From 28 March to 7 April 1995", pp.1-54.

[234] "Statistics on Participation and In-Session Engagement"

the parties adopted 17 decisions. The decisions include the work program for SBI, activities carried out by the Secretariat to provide the parties with technical and financial assistance, works related to AGBM, consideration of IPCC's Second Assessment Report (SAR), technology transfer, communications on the rules, agenda, and operation for consideration from the Convention's Annex I and non-Annex I parties, providing direction to GEF, creation of the permanent secretariat and the framework for its operation, the location of the Convention secretariat's headquarters and budgetary issues.[235]

The SAR, a critical report presented in the meeting, is worth mentioning. In the last month of 1995, the IPCC published the SAR. The report has four parts: analysis of scientific-technical information essential to deciding how to implement Article 2 of the UNFCCC, the science of climate change (working group I), scientific-technical evaluation of the effects, adaptations, and mitigations of climate change (working group II) and the impacts of climate change on the economy and society (working group III). Each working group dealt with different issues.[236]

The following are some conclusions reached by Working Group I: GHG concentrations have continued to rise, anthropogenic aerosols typically produce negative radiation heat, weather patterns have changed over the last century, the weight of the evidence suggests a noticeable human impact on global climate, the climate is expected to continue to change in the future, and there are still numerous uncertainties. Working Group II explains the extent of the assessment, the nature of the problem, the sensitivity of climate change, and the alternatives for reducing GHG emissions. Lastly, working Group III describes the framework for decision-making, equality, cost-benefit analyzes, social costs of climate change, response strategies, cost of response choices, integrated evaluations, and economic analyzes of policy instruments.[237] The evaluation of the SAR is critical and highlighted in COP 2 since

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[235] "Report of the Conference of the Parties on its Second Session, Held at Geneva From 8 to 19 July 1996". United Nations. October 29, 1996. Retrieved from, https://unfccc.int/cop5/resource/docs/cop2/15a01.pdf ,pp.1-2.

[236] "IPCC Second Assessment Climate Change 1995". Intergovernmental Panel on Climate Change. December 1995. Retrieved from https://www.ipcc.ch/site/assets/uploads/2018/05/2nd-assessment-en-1.pdf ,p.1.

[237] "IPCC Second Assessment Climate Change 1995", pp.21-55.

the report's conclusions were alarming. Hence, the parties were advised to consider SAR.

The COP ended by mentioning the "Geneva Declaration," which has 11 principles. The declaration validates the current commitments made under the Convention, asserts the principles of equity, CBDR, recognizes and supports the IPCC's SAR, considers that the findings of the SAR imply that continued increases in GHG concentrations in the atmosphere would result in destructive intervention with the climate system, and recognizes the need for continuing work by the IPCC. The declaration also encourages developing country parties to continue implementing the Convention. It acknowledges that doing so needs decisive and prompt action, especially from Annex II parties, and it instructs AGBM representatives to facilitate consultations on drafting a legally binding protocol.[238]

The third COP was held in Kyoto, Japan, from December 1 to 11, 1997. Around 10,000 people from party representatives, observer organizations, and media participated in the conference.[239] Parties adopted 18 decisions at this conference. The decisions include the adoption of the Kyoto Protocol, methodological challenges linked to the Kyoto Protocol, execution of the Convention, amendments to the Convention, communications from Annex I parties, collaboration with the IPCC, creation of experimental arrangements for the climate system, production and transfer of technologies, evaluation of the financing instruments, division of labor between the SBI and the SBSTA, future work of the Ad hoc Group, the financial performance of the period 1996-1997, budget for the period 1998-1999, and administrative support to the Secretariat.[240]

One of the essential outcomes of the conference is the adoption of the Kyoto Protocol. Parties of the Kyoto Protocol agreed to limit and cut GHG emissions

[238] "Report of the Conference of the Parties on its Second Session, Held at Geneva From 8 to 19 July 1996", pp.71-74.

[239] "Statistics on Participation and In-Session Engagement"

[240] "Report of the Conference of the Parties on its Third Session, Held at Kyoto From 1 to 11 December 1997". United Nations. March 25, 1998. Retrieved from https://unfccc.int/resource/docs/cop3/07a01.pdf ,pp.1-2.

through individual targets to combat global warming. While the Protocol was adopted on 11 December 1997, it came into force on 16 February 2005 after a lengthy ratification process. The Kyoto Protocol currently has 192 signatories. The protocol has 27 articles for operationalizing its targets and commitments.[241]

The first article contains definitions. According to the second article, Annex I countries should adopt policies and practices in accordance with their national conditions, collaborate with the other parties to improve the individual and combined effectiveness of their policies and measures, limit or lowering GHG emissions not governed by the Montreal Protocol, adopt policies and standards to mitigate the negative impacts of climate change and orchestrate policies and measures. For Article 3, Annex I parties shall ensure that their GHG emissions do not exceed their assigned amounts. They should have made observable advancements in meeting their responsibilities to reduce adverse socioeconomic and environmental effects on developing countries.[242]

Under Article 4, the parties to the agreement should inform the secretariat of their ratification, acceptance, approval, or accession to the agreement's terms, and each party is responsible for its level of emissions specified in the agreement if it fails to meet its emission reduction targets. Article 5 states that each Annex I party should submit its national system for estimating anthropogenic emissions no later than one year before the first commitment period begins. The parties should utilize the IPCC-accepted methodologies for estimating anthropogenic emissions. Annex I parties could transfer to or obtain from any other such Party emission reduction items resulting from projects aimed at reducing anthropogenic emissions, according to Article 6. Parties may also mandate legal institutions to participate in actions that result in the creation, transfer, or collection of emission reduction items. Under Article 7, Annex I parties should present an annual inventory of anthropogenic

[241] "What is Kyoto Protocol". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/kyoto_protocol

[242] "Kyoto Protocol to the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. December 10, 1997. Retrieved from https://unfccc.int/sites/default/files/resource/docs/cop3/l07a01.pdf , pp.1-6.

emissions, and any additional information required to indicate conformance with their commitments.[243]

According to Article 8, the information presented under Article 7 by each Party Annex I would be evaluated by an expert review team, which the secretariat would coordinate. The evaluation process provides a comprehensive technical evaluation of all aspects of a Party's implementation of this Protocol. Article 9 implies that the COP would evaluate this Protocol regularly considering the best available scientific data and evaluations on climate change and its impacts, as well as necessary technical, social, and economic data. According to Article 10, all parties should prepare, enforce, submit, and regularly update cost-effective national and regional programs, collaborate in the development and diffusion of environmentally friendly technologies, collaborate in scientific and technical research, and execute international education and training programs, taking into account their common but differentiated responsibilities and their specific national and regional development priorities.[244]

Article 11 states that developed country parties and other developed parties listed in Annex II should deliver new and additional financial tools to meet the agreed-upon full costs generated by developing country parties in promoting the execution of existing commitments and the transfer of technologies. Article 12 defines CDM. The mechanism aims to support non-Annex I parties in achieving sustainable development. Parties not included in Annex I would benefit from project activities that resulted in CERs. In contrast, parties included in Annex I could use the CERs from such project practices to contribute to conformance with a share of their tangible emission reduction commitments. The COP has authority over and guidance over the CDM. The COP ensures that a share of the funds from certified project activities is allocated to cover administrative costs and support developing country parties in meeting adaptation costs.[245]

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[243] "Kyoto Protocol to the United Nations Framework Convention on Climate Change", pp.6-9.

[244] "Kyoto Protocol to the United Nations Framework Convention on Climate Change", pp.9-12.

[245] "Kyoto Protocol to the United Nations Framework Convention on Climate Change", pp.12-14.

According to Article 13, the COP serves as the meeting of the Protocol's parties and is the ultimate authority responsible for the Protocol's implementation. The secretariat organizes the COP's meeting sessions. At the same time, any entity or organization, national or international, governmental, or non-governmental, can participate as an observer at the COP sessions. Article 14 mentions the operational arrangements of the Secretariat, and Article 15 defines the roles of the SBI and the SBSTA. The COP, according to Article 16, should characterize the applicable principles, procedures, rules, and standards, particularly for verification, reporting, and accountability for emissions trading. Article 17 states that the COP should implement adequate and effective practices and frameworks for determining and addressing cases of noncompliance with the provisions of this Protocol. Article 18 implies that conflict resolution shall utilize mutatis mutandis in this Protocol. Article 19 notes that any party could offer amendments to this Protocol, which are adopted at an ordinary session of the COP.[246]

Article 20 refers to the Protocol's annexes as an integral part and a reference to this Protocol. Any Party could present an annex to this Protocol as well as amendments to annexes to this Protocol. Annexes to this Protocol, as well as amendments to annexes to this Protocol, are adopted by the COP at an ordinary session. Article 21 notes that each party has one vote. Article 22 specifies that the Secretary-General of the UN is the depositary of this Protocol. According to Article 23, the Protocol is available for signature at the United Nations Headquarters in New York from March 16 to March 15, 1998. It is subject to ratification or approval by states and regional economic integration organizations. Article 24 states that this Protocol would come into effect on the 90th day after not less than 55 parties to the Convention have delivered their documents of ratification of the Protocol. Article 25 notes that this Protocol is not subject to objections. Article 26 is about issues related to withdrawal from the Protocol, and Article 27 implies that the Protocol is deposited with the Secretary-General of the UN in six languages.[247]

[246] "Kyoto Protocol to the United Nations Framework Convention on Climate Change", pp.14-18.

[247] "Kyoto Protocol to the United Nations Framework Convention on Climate Change", pp.19-21.

4.3. Kyoto Protocol Era (COP 4-COP 11)

The fourth COP was held in Buenos Aires from November 2 to 13, 1998. Approximately 5,000 people attended the conference.[248] The conference ended with the adoption of 19 decisions. These decisions are about the Buenos Aires Plan of Action, guidance, and review of the financial mechanism, technology transfer, implementation of the Convention and the Kyoto Protocol, work plan for mechanisms of the Kyoto Protocol, preparations for the first COP meeting of the Kyoto Protocol, land use and forestry, the process of transnational consultation, national communications from Annex I and non-Annex I parties, research and climate observation, impacts of projects, issues related to administration and budget, participation of intergovernmental and non-governmental organizations and meeting schedules of Convention bodies.[249]

By adopting the Buenos Aires Plan of Action, the parties agreed to sustain political synergy by strengthening UNFCCC implementation and preparing for the prospective entry into the effect of the Kyoto Protocol to the Convention. Under the Plan of Action, the parties agreed to make considerable achievements in financial mechanisms, transfer of technologies, implementation of the Convention and the Kyoto Protocol, the work plan for mechanisms of the Kyoto Protocol, and preparations for the first COP meeting of the Kyoto Protocol. Regarding the financial mechanism, GEF was selected as the entity responsible for its operation.[250]

COP 5 was organized in Bonn between 25 October and 5 November 1999. The conference involved approximately 4,000 people.[251] The parties in this meeting adopted 22 decisions. These decisions are about the implementation of the Buenos

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[248] "Statistics on Participation and In-Session Engagement".

[249] "Report of the Conference of the Parties on its Fourth Session, Held at Buenos Aires From 2 to 4 November 1998". United Nations. January 25, 1999. Retrieved from https://unfccc.int/resource/docs/cop4/16a01.pdf ,pp.1-2.

[250] "Report of the Conference of the Parties on its Fourth Session, Held at Buenos Aires From 2 to 4 November 1998", p.4.

[251] "Statistics on Participation and In-Session Engagement".

Aires Plan of Action, the date and location of COP 6, guidelines for the parties to utilize in preparing national communications, research, and climate observation, Annex I parties' technical review instructions for GHG stocks, the first collection and characterization of primary communications from non-Annex I parties, other issues concerning communications from non-Annex I parties, technology transfer, capacity building in developed and developing states, implementation of the Kyoto Protocol, land use and forestry, cooperation with the IPCC, program budget for the period 2000-2001 and budget performance of the period 1998-1999.[252]

The first part of the sixth COP was hosted in the Hague between 13-25 November 2000. Approximately 7,000 party representatives, observer organizations, and media attended the conference.[253] In this conference, the parties adopted four decisions regarding implementing the Buenos Aires Plan of Action, the date and location of COP 7, the second collection and characterization of primary communications from non-Annex I parties, and issues related to administration and budget. Due to the deadlock of the negotiations at the conference, the delegates decided to continue the negotiations in 2001.[254]

The second part of the sixth COP was hosted in Bonn between 16-27 July 2001. Unlike the first session of COP 6, which hosted around 7,000 guests, there were around 3,800 people in the second session of COP 6.[255] Despite lower participation, the parties adopted 10 decisions, which are more than the first session. These decisions cover capacity building in developed and developing states, technology transfer, implementation of the Convention and the Kyoto Protocol, funding under the Convention and the Kyoto Protocol, and impacts of projects. Regarding the

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[252] "Report of the Conference of the Parties on its Fifth Session, Held at Bonn From 25 October to 5 November 1999". United Nations. February 2, 2000. Retrieved from https://unfccc.int/resource/docs/cop5/06a01.pdf ,pp.1-3.

[253] "Statistics on Participation and In-Session Engagement".

[254] "Report of the Conference of the Parties on its Sixth Session, Held at Hague From 13 to 25 November 2000". United Nations. April 4, 2001. Retrieved from https://unfccc.int/resource/docs/cop6/05a02.pdf ,p.1.

[255] "Statistics on Participation and In-Session Engagement".

funding, COP 6 paved the way for establishing the AF under the GEF for the needs of LDCs and SIDs.[256]

The seventh COP was organized from 29 October to 10 November 2001 in Marrakech, Morocco. Approximately 4,500 representatives were present at the meeting.[257] In this conference, 14 decisions were adopted. These decisions are about the Marrakech Declaration, capacity building in developed and developing states, technology transfer, implementation of the Convention and the Kyoto Protocol, funding under the Convention and the Kyoto Protocol, issues related to the Kyoto Protocol, land use, forestry, and forest management, impacts of projects and good practices of Annex I parties. COP 7 also paved the way for the establishment of LEG to deliver assistance and technical supervision to the LDCs.[258]

The key outcome of the conference was the adoption of the Marrakech Declaration. The declaration has six principles that underline that the developing nation parties' core intentions are economic and social development and the elimination of poverty. Also, it is stated that tackling the various problems caused by climate change would enable countries to move toward sustainable development. In this realm, it is acknowledged that the World Summit on Sustainable Development (WSSD) offers a significant opportunity to address the interconnections between climate change and sustainable development. According to the first principle, the declaration takes notice of the agreements made at the seventh session of the Conference of the Parties in Marrakesh, which together form the Marrakesh Accords and lay the foundation for the Kyoto Protocol's eventual coming into force. In the second principle, the declaration continues to be highly concerned about the rising danger of adverse effects of climate change that all nations, particularly developing nations, including the least developed countries and small island states, confront.[259]

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[256] "Report of the Conference of the Parties on the Second Part of its Sixth Session, Held at Bonn From 16 to 27 July 2001". United Nations. September 25, 2001. Retrieved from https://unfccc.int/sites/default/files/resource/docs/cop6secpart/05a01.pdf ,pp.1-2.

[257] "Statistics on Participation and In-Session Engagement".

[258] "Report of the Conference of the Parties on its Seventh Session, Held at Marrakech From 29 October to 10 November 2001". United Nations. January 21, 2002. Retrieved from https://unfccc.int/resource/docs/cop7/13a01.pdf ,pp.1-2.

[259] "Report of the Conference of the Parties on its Seventh Session, Held at Marrakech From 29 October to 10 November 2001", p.3.

In the third principle, the declaration emphasizes that the issues of poverty, soil contamination, accessibility to food and water, and human health continue to dominate the majority of interest on a global scale. Thus, to achieve sustainable development, it is essential to promote collaborations between the UNFCCC, the CBD, and the UNCCD through various means. According to the fourth principle, the declaration emphasizes the significance of increasing capacities and inventing and spreading cutting-edge technologies in relation to essential development sectors, encouraging governmental policymaking and international collaborations. The fifth principle underscores the need for collaboration at all levels to combat climate change and its adverse effects. In the last principle, it is demanded that the UNFCCC Executive Secretary and the President of the COP remain actively involved in the World Summit arrangements and report to the COP.[260]

From 23 October to 1 November 2002, the eighth COP was held in New Delhi, India. Around 4,300 representatives participated in this conference.[261] In COP 8, 16 decisions were accepted. These decisions include the Delhi Ministerial Declaration on Climate Change and Sustainable Development, national communications from Annex I and non-Annex I parties, CGE on national communications from Annex I parties, guidance and review of the financial mechanism, guidance for the operation of SCCF and LDCF, analysis of the procedures for creating national action plans for adaption, technology transfer, New Delhi Work Program, collaboration with other conventions, date, and location of COP 9 and administrative and financial issues.[262]

Similar to the previous COP, the Delhi Declaration was accepted, which is on climate change and sustainable development. The declaration reiterates that developing state parties' core priorities include eradicating poverty and advancing economic and social development. It is acknowledged that the IPCC Third Assessment Report's assessments, which show that significant reductions in global

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[260] "Report of the Conference of the Parties on its Seventh Session, Held at Marrakech From 29 October to 10 November 2001", pp.3-4.

[261] "Statistics on Participation and In-Session Engagement".

[262] "Report of the Conference of the Parties on its Eighth Session, Held at New Delhi From 23 October to 1 November 2002". United Nations. March 28, 2003. Retrieved from https://unfccc.int/resource/docs/cop8/07a01.pdf ,pp.1-2.

GHG emissions, would be required to achieve the Convention's ultimate goal. The declaration emphasizes that immediate action is needed to promote adaptation measures, which continue to have high priority under the provisions of the Convention. It is also asserted that mitigation actions are being carried out in Annex I and non-Annex I countries. The declaration notes that climate change could jeopardize ecosystems, economic development, and future prosperity in all regions. It also voices profound concerns that developing nations are at significant risk from the adverse effects of climate change.[263]

According to the declaration, development projects should be supported within the sustainable development framework because Africa is the continent most adversely affected by climate change and poverty. The declaration indicates that to achieve sustainable development objectives, climate change and its negative impacts should be managed in responding to the issues facing both now and in the future. In this realm, it calls for the parties to ratify the Kyoto Protocol, promoting sustainable development, integrating climate objectives into national strategies and policies, advancing the execution of their commitments under the Convention by taking CBDR into account, adapting measures to combat climate change, promoting information sharing, considering the specific needs and concerns of developing states, promoting international collaboration, developing and transferring technologies, diversifying energy supplies and promoting the use of renewable energy resources.[264]

The Delhi Declaration referred to the IPCC Third Assessment Report, which is worth mentioning. In the report, three working groups dealt with different aspects of climate change, and the report was published in 2001. In other words, the first working group concentrates on the scientific basis; the second focuses on effects, adaptation, and vulnerability, and the third deals with mitigation issues.[265] The first

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[263] "Report of the Conference of the Parties on its Eighth Session, Held at New Delhi From 23 October to 1 November 2002", p.3.

[264] "Report of the Conference of the Parties on its Eighth Session, Held at New Delhi From 23 October to 1 November 2002", pp.3-4.

[265] "Climate Change 2001: Synthesis Report". Intergovernmental Panel on Climate Change. 2001. Retrieved from https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_TAR_full_report.pdf , pp.152-294.

working group focused on the climate system's observable alterations, the driving forces behind climate change, the simulation of the climate system's transformation, the revelation of a human impact on climate change, forecasts for the planet's climate in the future, and increasing awareness of climate change.[266]

The second working group concentrates on global concerns, integration, sources of information, natural and human structures, regional evaluations, adaptation, sustainable development, equity, and the assessment's scope, strategy, techniques, and instruments.[267] The third working group sheds light on the report's framework, GHG scenarios, the technological and economic viability of mitigation options, the technological and economic viability of options to improve, preserve, and maintain natural carbon reservoirs, and geoengineering. It also examines obstacles, opportunities, the market availability of technologies and practices, policies, measures, instruments, budgeting methodologies, global, regional, and national expenses and supplementary incentives, sectoral considerations, and other issues.[268]

The report reveals that the Earth's surface is getting warmer internationally, GHG emissions have significantly increased, stabilizing GHG density would necessitate global emissions to fall below the year 1990 levels, of almost all lands very likely to heat up more than the world average, sea level rise would persist for another several centuries, hydrological cycles were intensifying, summer drying, and associated risk of drought have increased, and ecosystems and species were at risk. According to the report, positive and negative consequences from future warming are inevitable, but adverse effects will prevail at greater warming rates. These adverse effects are especially devastating to developing states and people with low incomes. Hence, it is underlined in the report that effective national GHG emission reduction and mitigation measures are required to combat climate change globally.[269]

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[266] "Climate Change 2001: Synthesis Report", p.150.

[267] "Climate Change 2001: Synthesis Report", p.220.

[268] "Climate Change 2001: Synthesis Report", p.292.

[269] "Climate Change 2001: Synthesis Report", pp.31-32.

COP 9 was held in Milan, Italy, between 1-12 December 2003. More than 5,000 people from the parties of the COP, observer institutions, and media were present at COP 9.[270] In this conference, 16 decisions were accepted. These decisions cover national communications from Annex I parties, collection, and analysis of these communications, report of the GEF, counseling to a financial mechanism's operational body, additional guidance to the SCCF and the LDCF, the extension of the LEG's authority, assessment of the instructions for creating national adaption action plans, capacity building, the effects of climate change, including risk and adaptation, as well as scientific, technological, and socioeconomic elements of mitigation, climate monitoring systems on an international scale, issues linked to the technical examination of Annex I's GHG inventories, recommendations for best practices in land use, land-use reform, and forestry for national GHG inventories, date, and location of COP 10, the financial performance of the period 2002-2003 and program budget for the period 2003-2004.[271]

Buenos Aires hosted the tenth COP on 6-18 December 2004. A decade has passed since the UNFCCC went into effect, and 2004 celebrates that milestone. More than 6,000 representatives joined the session of COP 10[272]. In this meeting, 11 decisions were adopted. These decisions are about the Buenos Aires work plan for adaptation and mitigation actions, capacity building in developed and developing states, works of the LEG, execution of the global climate observation system, technology transfer, status and implementation of the New Delhi Work Program, instructions to a financial mechanism operating body, evaluation of funding for supporting developing states and administrative and financial issues.[273]

The eleventh COP and the first meeting of the Kyoto Protocol's parties (COP/MOP 1 or CMP 1) were organized from 28 November to 10 December 2005 in Montreal,

[270] "Statistics on Participation and In-Session Engagement".

[271] "Report of the Conference of the Parties on its Ninth Session, Held at Milan From 1 to 12 December 2003". United Nations. April 22, 2004. Retrieved from https://unfccc.int/resource/docs/cop9/06a01.pdf , pp.1-2.

[272] "Statistics on Participation and In-Session Engagement".

[273] "Report of the Conference of the Parties on its Tenth Session, Held at Buenos Aires From 6 to 18 December 2004". United Nations. April 19, 2005. Retrieved from https://unfccc.int/resource/docs/cop10/10a01.pdf ,p.1.

Canada. Around 9,500 people participated in the sessions of COP 11 and COP/MOP 1.[274] 13 decisions were adopted at this meeting. These decisions are on consideration of long-term collaborative efforts to combat climate change through effective Convention enforcement, the SBSTA's five-year work plan on the effects, vulnerabilities, and adaptation to climate change, guidance for the LDCF, the extension of the LEG's authority, counseling for a financial mechanism's operational body, technology transfer, assessment of proceedings for Annex I parties for the period 2006-2007, delivery of the second and third national communications from parties not included in Annex I, necessities for research relevant to the Convention, organizational ties between the Convention secretariat and the UN, program budget for the period 2006-2007 and budget performance of the period 2004-2005.[275]

In the first decision, titled "Dialogue on long-term cooperative action to address climate change by enhancing the implementation of the Convention", the parties were urged to communicate to exchange expertise and analyze strategic approaches for long-term collaborative action to address climate change. These interactions should cover the following topics: promoting development goals sustainably, dealing with adaptive action, utilizing technology to its fullest extent, and maximizing market-based alternatives. The importance of dialogue was underlined since it promotes the effective development of national and international strategies for climate change, facilitates the exchange of information, helps states determine sustainable development and climate change approaches, and promotes the usage and transfer of environmentally friendly technologies.[276]

The first session of the COP, the parties' meeting to the Kyoto Protocol (COP/MOP 1 or CMP 1), also took place in Montreal in conjunction with COP 11. In this session, the parties discussed and adopted issues related to the operation of the Kyoto Protocol. In CMP 1, 8 decisions were accepted. These are about the evaluation of

[274] "Statistics on Participation and In-Session Engagement".

[275] "Report of the Conference of the Parties on its Eleventh Session, Held at Montreal From 28 November to 9 December 2005". United Nations. March 30, 2006. Retrieved from https://unfccc.int/resource/docs/2005/cop11/eng/05a01.pdf , pp.1-2.

[276] "Report of the Conference of the Parties on its Eleventh Session, Held at Montreal From 28 November to 9 December 2005", pp.3-4.

commitments, issues related to mechanisms of the Kyoto Protocol, principles, guidance, and methods for the CDM, and effects of the construction of new HFC-22 factories.[277]

4.4. Post-Kyoto Transition (COP 12-COP 15)

From November 6 to 17, 2006, Kenya organized the second meeting of the Kyoto Protocol's parties in Nairobi in association with the COP's 12th session. Approximately 6,000 representatives joined the meetings of COP 12 and COP/MOP 2.[278] Long-term climate change mitigation and creating a plan of action after the completion of the first commitment period of the Kyoto Protocol were the primary focuses of both COP/MOP 2 and COP 12. 9 decisions were adopted in this conference. These decisions include additional guidance to the SCCF and the GEF, analysis of the financial mechanism, capacity building, technology transfer, institutional, budgetary, and administrative issues, and the date and location of COP 13.[279] In addition to COP 12 decisions, the parties adopted 11 decisions in the CMP 2. These are directing the CDM, reviewing, guiding, and implementing the Kyoto Protocol, the Compliance Committee, the AF, capacity building, forest management, and organizational, budgetary, and operational issues.[280]

The thirteenth COP of UNFCCC and the third COP/MOP were held in Bali, Indonesia, from 3 to 15 December 2007. Over 10,000 representatives joined the COP 13 and COP/MOP 3 events.[281] In COP 13, the parties accepted 14 decisions. These decisions are composed of Bali Action Plan, cutting emissions caused by

[277] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its first session, held at Montreal from 28 November to 10 December 2005". United Nations. March 30, 2006. Retrieved from https://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf , pp.1-2.

[278] "Statistics on Participation and In-Session Engagement".

[279] "Report of the Conference of the Parties on its Twelfth Session, Held at Nairobi From 6 to 17 November 2006". United Nations. January 26, 2007. Retrieved from https://unfccc.int/resource/docs/2006/cop12/eng/05a01.pdf , pp.1-2.

[280] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its second session, held at Nairobi from 6 to 17 November 2006". United Nations. March 2, 2007. Retrieved from https://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf , pp.1-2.

[281] "Statistics on Participation and In-Session Engagement".

deforestation in developing nations, technology production and transfer with the SBI and the SBSTA, Fourth Assessment Report of the IPCC, analysis of the financial mechanism, guidance to the GEF, the extension of the LEG's authority, amended New Delhi Work Program, collection and analysis of the fourth national communications, report on climate observation systems on a global scale, the secretariat's duties and activities, budget performance, program budget for the period 2008-2009 and date and location of COP 14 and COP 15.[282]

In COP 13, the Bali Action Plan was adopted to implement the Convention effectively. The plan confirms that the top global objectives are eradicating poverty and advancing economic and social development. It also mentions the Fourth Assessment Report of the IPCC's conclusions that the warming of the climate system is undeniable and delaying emission reductions severely limits possibilities to attain lower stability levels and raises the probability of more severe climate change effects. Hence, significant reductions in world emissions are required.[283]

In this realm, to achieve a consensus and adopt a resolution at its fifteenth session, the action plan initiates a holistic approach to allow the complete, practical, and sustainable implementation of the Convention through long-term cooperative initiatives until and beyond 2012. These processes are decided to be carried out by a subsidiary body called the AWG-LCA. It was determined that the process would start immediately and that the group's first meeting would take place no later than 2008. Parties from Annex I and non-Annex I would be chosen as the group's Chair and Vice-Chair. For the operational matters, the COP was required to take notice of the suggested meeting timetable, guide the group to form its work plan, allow the parties to share their perspectives on the work plan with the secretariat, and urge the group to report on the progress.[284]

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[282] "Report of the Conference of the Parties on its Thirteenth Session, Held at Bali From 3 to 15 December 2007". United Nations. March 14, 2008. Retrieved from https://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf , pp.1-2.

[283] "Report of the Conference of the Parties on its Thirteenth Session, Held at Bali From 3 to 15 December 2007", p.3.

[284] "Report of the Conference of the Parties on its Thirteenth Session, Held at Bali From 3 to 15 December 2007", pp.3-6.

The IPCC's Fourth Assessment Report findings were discussed, and a decision was adopted in COP 13. Hence, it is worth mentioning since this critical document provides a comprehensive climate change perspective. This Synthesis Report was compiled based on the evaluation performed by the three IPCC Working Groups (WGs). The first working group concentrates on the physical science framework, the second on effects, adaptation, and vulnerability, and the third on climate change mitigation. Six topics constitute this synthesis report. Topic 1 summarizes observable changes in climate and their consequences on natural and human systems independent of their sources, while Topic 2 evaluates the reasons for the observed changes. Under various scenarios, Topic 3 provides predictions of future climate change and its effects. The possibilities for adaptation and mitigation throughout the ensuing decades are covered in Topic 4, along with how they relate to sustainable development. Topic 5 evaluates the connection between adaptation and mitigation from a more conceptual and broader viewpoint. Lastly, the findings and remaining significant uncertainties are summarized in Topic 6.[285]

According to the report's results, there is no doubt that the climate system is warming, local climatic changes are impacting many natural systems, and GHG emissions have significantly grown. Global GHG emissions would increase over the following several decades with existing climate change mitigation strategies and associated sustainable development practices. Continuing GHG emissions at or above present levels would result in even more warming and various impacts on the world's climate. Therefore, it was expected that some systems, industries, and geographical areas would be particularly impacted by climate change. Due to the increase in some extreme weather occurrences, effects are highly likely to escalate. Moreover, since unmanaged climate change would surpass the capacity of natural, controlled, and human systems to adapt, considerable adaptation is needed to reduce vulnerability to climate change. In this respect, the report asserts that shifting development dynamics could significantly contribute to climate change mitigation and adaptation and vulnerability reduction.[286]

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[285] "Climate Change 2007: Synthesis Report". Intergovernmental Panel on Climate Change. 2008. Retrieved from https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf, p.26.

[286] "Climate Change 2007: Synthesis Report", pp.72-73.

Besides COP 13, COP/MOP 3 was also held in Bali. In CMP 3, the parties accepted 11 decisions. These decisions are about the AF, guidance on the CDM, compliance, and implementation of the Kyoto Protocol, the second review of the Kyoto Protocol's coverage and contents, presentation of the progress of Annex I parties' regarding fulfilling their commitments, collection, and elaboration of supplemental material used in fourth national communications, the financial performance of the period 2006-2007 and program budget for the period 2008-2009.[287]

On 1-12 December 2008, Poland hosted COP 14 and COP/MOP 4. Around 9,200 representatives from the parties of the COP, observer organizations, and media attended the meetings.[288] In COP 14, 9 decisions were accepted. These decisions cover advancing the Bali Action Plan, technology transfer, financial mechanism, guidance to the GEF and the LDCF, capacity building, organizational, budgetary, and operational issues, and the date and location of upcoming meetings.[289] Poznan also hosted COP/MOP 4 in addition to COP 14. The meeting resulted in the adoption of 8 decisions. These are on the AF, guidance to the CDM, making progress with the work of the Ad hoc Working Group on Further Commitments for Annex I parties, the Compliance Committee, guidance for the implementation of the Kyoto Protocol, capacity building for developing states and institutional, budgetary, and administrative issues.[290]

COP 15 of the UNFCCC and COP/MOP 5 was organized on 7-19 December 2009 in Copenhagen, Denmark. The conference was marked as one of the most crowded meetings of the UNFCCC climate conference series, with around 27,000 people

[287] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its third session, held in Bali from 3 to 15 December 2007". United Nations. March 14, 2008. Retrieved from https://unfccc.int/resource/docs/2007/cmp3/eng/09a01.pdf , pp.1-2.

[288] "Statistics on Participation and In-Session Engagement".

[289] "Report of the Conference of the Parties on its Fourteenth Session, Held at Poznan From 1 to 12 December 2008". United Nations. March 18, 2009. Retrieved from https://unfccc.int/resource/docs/2008/cop14/eng/07a01.pdf , p.1.

[290] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its fourth session, held in Poznan from 1 to 12 December 2008". United Nations. March 19, 2009. Retrieved from https://unfccc.int/resource/docs/2008/cmp4/eng/11a01.pdf , pp.1-2.

participating in events of COP 15 and COP/MOP 5.[291] In the COP 15 conference, 13 decisions were accepted. These decisions are composed of outcomes of the Ad hoc Working Group on Long-Term Cooperative Action, Copenhagen Accord, the amendment to the Convention, methodological guidelines for initiatives aimed at lowering emissions caused by deforestation and forest degradation, work of the CGE, fourth assessment of the financial mechanism, guidance to the GEF, capacity building, regular observations of the climate, institutional, budgetary, and administrative issues, program budget for the period 2010-2011 and the date and location of upcoming meetings.[292]

One of the key outcomes of COP 15 is the adoption of the Copenhagen Accord. The document emphasizes that climate change is one of the world's most significant issues. It urges the parties to address it following the CBDR idea by considering their capacities. According to scientific results and the IPCC's Fourth Assessment Report, it is acknowledged that reductions in global emissions are necessary. As a result, the accord calls on states to work together to meet global and domestic emission targets. Further, the convention's adaptation and implementation require international collaboration. The document further emphasizes the need to lower emissions caused by deforestation and forest degradation, explore different strategies to support mitigation activities, and broaden financial options. The accord paved the way for the creation of new mechanisms. High-Level Panel, REDD+, and Copenhagen Green Climate Fund were formed in terms of funding. Besides, a Technology Mechanism was established to facilitate and accelerate technology transfer.[293]

In addition to COP 15, COP/MOP 5 was also held in Copenhagen. The meeting of CMP 5 resulted in the acceptance of 10 decisions. These decisions are composed of findings of the Ad hoc Working Group on Further Commitments for Annex I parties' activities, guidance to the CDM and implementation of the Kyoto Protocol, report of

[291] "Statistics on Participation and In-Session Engagement".

[292] "Report of the Conference of the Parties on its Fifteenth Session, Held at Copenhagen From 7 to 19 December 2009". United Nations. March 30, 2010. Retrieved from https://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf#page=41 , pp.1-2.

[293] "Report of the Conference of the Parties on its Fifteenth Session, Held at Copenhagen From 7 to 19 December 2009", pp.5-7.

the AFB, assessment of the AF, the Compliance Committee, capacity building, institutional, budgetary, and administrative issues, and program budget for the period 2010-2011.[294]

4.5. The Road to the Paris Agreement (COP 16-COP 20)

From 29 November to 11 December 2010, COP 16 and COP/MOP 6 were organized in Cancun, Mexico. Over 11,000 party representatives, observer organizations, and media attended the events.[295] In COP 16, 12 decisions were accepted by the parties. These decisions include the Cancun Agreements, assessment of financial mechanism and the SCCF, guidance to the GEF and the LDCF, the extension of the LEG's authority, implementation of New Delhi Work Program, national communications from Annex I parties, capacity building, institutional, budgetary, and administrative issues and date and location of upcoming meetings.[296]

The critical outcome of COP 16 is the adoption of the Cancun Agreements, which is the final document of the AWG-LCA under the Convention. The agreement emphasizes the Convention's practical implementation, acknowledges that climate change poses a severe and potentially irreparable threat to human societies and the environment, and embraces the necessity for developing country parties to attain sustainable economic growth and the elimination of poverty. It also considers that the negative impacts of climate change have various effects on human rights, both directly and indirectly. Furthermore, the agreement identifies that climate change is one of the world's greatest challenges, so significant reductions in global GHG emissions are necessary. In this realm, it is stated that the parties should work together to meet national GHG emission targets, including a wide range of global,

[294] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its fifth session, held in Copenhagen from 7 to 19 December 2009". United Nations. March 30, 2010. Retrieved from https://unfccc.int/resource/docs/2009/cmp5/eng/21a01.pdf#page=3 , pp.1-2.

[295] "Statistics on Participation and In-Session Engagement".

[296] "Report of the Conference of the Parties on its Sixteenth Session, Held at Cancun From 29 November to 10 December 2010". United Nations. March 15, 2011. Retrieved from https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf , p.1; "Report of the Conference of the Parties on its Sixteenth Session, Held at Cancun From 29 November to 10 December 2010". United Nations. March 15, 2011. Retrieved from https://unfccc.int/resource/docs/2010/cop16/eng/07a02.pdf , pp.1-2.

regional, national, and local stakeholders, respect human rights, and promote adaptation actions.[297]

The document also provides a framework for national mitigation commitments for developed and developing states. In this realm, alternative policies that support developing nations in reducing deforestation and forest degradation emissions are provided. In addition, the agreement presents a range of approaches, including the potential to use markets to improve cost-effectiveness and support mitigation efforts of developed and developing countries. It also notes the effects of response measures on society and the economy. Moreover, the agreement includes issues regarding finance, innovation, capacity development, technology transfer, review, other matters, and extension of the mandate of the AWG-LCA. Most significantly, the Cancun agreements paved the way for creating the GCF to provide funds, the Technology Mechanism for technology transfer, and the Cancun Adaptation Framework to promote adaptation.[298] Cancun also hosted COP/MOP 6. The discussion of CMP 6 led to the adoption of 13 decisions. These decisions are about the Cancun Agreements, reports of the AFB and the AF, additional information included in national communications, capacity building, institutional, budgetary, and administrative issues, and the Compliance Committee.[299]

South Africa hosted COP 17 and COP/COP 7 from 28 November - 11 December 2011 in Durban. More than 13,000 representatives from the parties, observer organizations, and media attended the meetings of COP 17 and COP/MOP 7.[300] In COP 17, 19 decisions were adopted regarding the formation of the ADP, analysis of the work of the AWG-LCA under the Convention, the foundation of the GCF, Technology Executive Committee and plans for national adaptations, Nairobi Work

[297] "Report of the Conference of the Parties on its Sixteenth Session, Held at Cancun From 29 November to 10 December 2010", pp.2-4.

[298] "Report of the Conference of the Parties on its Sixteenth Session, Held at Cancun From 29 November to 10 December 2010", pp.4-19.

[299] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its sixth session, held in Cancun from 29 November to 10 December 2010". United Nations. March 15, 2011. Retrieved from https://unfccc.int/resource/docs/2010/cmp6/eng/12a01.pdf , pp.1-2.

[300] "Statistics on Participation and In-Session Engagement".

Program, work program on loss and damage and implementation of response measures, the LDCF, the amendment to Annex I of the Convention, report of the GEF, capacity building, works of the CGE, institutional, budgetary, and administrative issues, program budget for the period of 2012-2013 and date and location of upcoming meetings.[301]

Parallel to COP 17, COP/MOP 7 was also held in South Africa. At the end of the CMP 7, the parties accepted 17 decisions regarding the work of the Ad hoc Working Group on Further Commitments for Annex I parties, land use and forestry, emission trading, sectors, source categories, GHG, and standard metrics to compute emissions and review of information on possible environmental, economic, and social effects, report of the AFB, analysis of the AF, guidance to the CDM and implementation of the Kyoto Protocol and the Compliance Committee.[302]

COP 18 and COP/MOP 8 took place in Doha from 26 November to 8 December 2012, the first UN climate change negotiations in the Middle East. Around 9,000 people attended the organized events in Qatar.[303] COP 18 ended with the adoption of 26 decisions. These decisions cover the Bali Action Plan, promotion of the Durban Platform, issues of loss and damage, work program on long-term finance and adaptation committee, report of the Standing Committee, Technology Executive Committee, the GCF and the GEF, organization between the COP and the GCF, assessment of financial mechanism, guidance to the LDCF, plans of national adaptations, Doha Work Program, works of the CGE, review of Annex I parties' national communications, capacity building, encouraging gender equality, an

[301] "Report of the Conference of the Parties on its Seventeenth Session, Held at Durban From 28 November to 9 December 2011". United Nations. March 15, 2012. Retrieved from https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf , p.1; "Report of the Conference of the Parties on its Seventeenth Session, Held at Durban From 28 November to 9 December 2011". United Nations. March 15, 2012. Retrieved from https://unfccc.int/resource/docs/2011/cop17/eng/09a02.pdf , pp.1-2.

[302] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from 28 November to 11 December 2011". United Nations. March 15, 2012. Retrieved from https://unfccc.int/resource/docs/2011/cmp7/eng/10a01.pdf , p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from 28 November to 11 December 2011". United Nations. March 15, 2012. Retrieved from https://unfccc.int/resource/docs/2011/cmp7/eng/10a02.pdf

[303] "Statistics on Participation and In-Session Engagement".

initiative for economic diversification, institutional, budgetary, and administrative issues and the date and location of upcoming meetings.[304]

In addition to COP 18, Qatar hosted COP/MOP 8. The event was completed with the acceptance of 13 decisions. These decisions are on the amendment and methodological issues related to the Kyoto Protocol, report of the AFB, analysis of the AF, guidance to the CDM and implementation of the Kyoto Protocol, the Compliance Committee, additional information included in national communications, methods for acquiring international transaction registry charges, capacity building, and institutional, budgetary, and administrative issues.[305]

Poland hosted COP 19 and COP/MOP 9 from 11-23 November 2013 in Warsaw. More than 8,300 representatives participated in the events organized in Poland.[306] In COP 19, 28 decisions were accepted by the parties. These decisions include the promotion of the Durban Platform, the WIM, climate finance, report of the GCF and the GEF, organization between the COP and the GCF, assessment of financial mechanism, work program on finance, mitigation in the forest sector in developing states, the MRV methodologies, tackling the causes of deforestation and degradation, works of the Adaptation Committee and the CGE, Nairobi Work Program, plans for national adaptation, national communications of Annex I parties, the UNFCCC reporting guidelines modification, methodological approaches and processes of the CTCN and its advisory board, budget performance for the period 2012-2013,

[304] "Report of the Conference of the Parties on its Eighteenth Session, Held at Doha From 26 November to 8 December 2012". United Nations. February 28, 2013. Retrieved from https://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf#page=3 , pp.1-2; "Report of the Conference of the Parties on its Eighteenth Session, Held at Doha From 26 November to 8 December 2012". United Nations. February 28, 2013. Retrieved from https://unfccc.int/resource/docs/2012/cop18/eng/08a02.pdf#page=2 , p.1; "Report of the Conference of the Parties on its Eighteenth Session, Held at Doha From 26 November to 8 December 2012". United Nations. February 28, 2013. Retrieved from https://unfccc.int/resource/docs/2012/cop18/eng/08a03.pdf#page=3 ,p.1.

[305] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighth session, held in Doha from 26 November to 8 December 2012". United Nations. February 28, 2013. Retrieved from https://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf#page=2 , p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighth session, held in Doha from 26 November to 8 December 2012". United Nations. February 28, 2013. Retrieved from https://unfccc.int/resource/docs/2012/cmp8/eng/13a02.pdf#page=3 ,pp.1-2.

[306] "Statistics on Participation and In-Session Engagement".

program budget for the period 2014-2015 and date and location of upcoming meetings.[307] Besides COP 19, COP/MOP 9 was also organized in Poland. The meeting concluded with the acceptance of 10 decisions. The decisions consist of a report of the AFB, an analysis of the AF, guidance to the CDM and implementation of the Kyoto Protocol, the Compliance Committee, additional information included in national communications, and a program budget for 2014-2015.[308]

The Lima Climate Change Conference occurred in Lima, Peru, from December 1 to 14, 2014. It consisted of the 20th Conference of the Parties (COP 20) to the UNFCCC and the 10th Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 10). Around 11,200 representatives from the parties, observer organizations, and media attended the conference.[309] COP 20 ended with the adoption of 24 decisions. These decisions are composed of the Lima Call for Climate Action, the WIM, plans for national adaptation, the report of the Adaptation Committee, the Standing Committee on Finance, the GCF and the GEF, climate finance, assessment of financial mechanism, guidance to the LDCF, Fifth Assessment Report of the IPCC, technical review rules and guidelines, the training program for review experts, annual report of the TEC and the CTCN, Lima Work Program on Gender, the Lima Ministerial Declaration on Education and Public Consciousness, work plan for evaluating the effects of response-measure application, institutional, budgetary, and administrative issues, adjustments in financial procedures and the date and location of upcoming meetings.[310]

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[307] "Report of the Conference of the Parties on its Nineteenth Session, Held at Warsaw From 11 to 22 November 2013". United Nations. January 31, 2014. Retrieved from https://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=3 , pp.1-2; "Report of the Conference of the Parties on its Nineteenth Session, Held at Warsaw From 11 to 22 November 2013". United Nations. January 31, 2014. Retrieved from https://unfccc.int/resource/docs/2013/cop19/eng/10a02r01.pdf#page=2 ,p.1; "Report of the Conference of the Parties on its Nineteenth Session, Held at Warsaw From 11 to 22 November 2013". United Nations. January 31, 2014. Retrieved from https://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=2 ,p.1.

[308] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its ninth session, held in Warsaw from 11 to 23 November 2013". United Nations. January 31, 2014. Retrieved from https://unfccc.int/resource/docs/2013/cmp9/eng/09a01.pdf#page=3 , pp.1-2.

[309] "Statistics on Participation and In-Session Engagement".

[310] "Report of the Conference of the Parties on its Twentieth Session, Held at Lima From 1 to 12 December 2014". United Nations. February 2, 2015. Retrieved from https://unfccc.int/resource/docs/2014/cop20/eng/10a01.pdf#page=2%22 , p.1; "Report of the

One of the key outcomes of the COP 20 is the acceptance of the Lima Call for Climate Action. The action reconfirms its commitment to strengthening adaptation action, mentions the WIM, and highlights the significant gap between mitigation commitments and global emissions. The document also emphasizes its dedication to reaching an ambitious agreement in 2015, invites developed country parties to deliver and mobilize greater financial support to developing country parties, determines that the ADP would deepen its work, and calls on the parties to meet their nationally determined targets and fully implement the decisions. Furthermore, the document agrees to proceed with the technical evaluation of opportunities with high mitigation potential from 2015 to 2020, instructs the ADP to suggest advancing the technical examination process, and notes the expected budget for the activities.[311]

In Lima, the parties also discussed the IPCC's Fifth Assessment Report, which will be mentioned briefly. The report was completed in 2014 and included the studies of three working groups. The first working group concentrates on the physical science framework, the second on effects, adaptation, and vulnerability, and the third on climate change mitigation. In addition to the reports of working groups, a synthesis report, which is a summary of reports of three working groups, was also prepared for the presentation of an integrated framework on climate change. The synthesis report is grounded on four topics: observed differences and their roots, climate changes in the future, risks and effects, future adaptation, mitigation, and sustainable development mechanisms and adaptation and mitigation.[312]

In the first topic of the synthesis report, it is stated that global warming is precise, GHG emissions have increased substantially since the pre-industrial era, climate shifts have had effects on both nature and humans on all territories and across the

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Conference of the Parties on its Twentieth Session, Held at Lima From 1 to 12 December 2014". United Nations. February 2, 2015. Retrieved from https://unfccc.int/resource/docs/2014/cop20/eng/10a02.pdf#page=2%22 ,p.1; "Report of the Conference of the Parties on its Twentieth Session, Held at Lima From 1 to 12 December 2014". United Nations. February 2, 2015. Retrieved from https://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf#page=3%22 ,pp.1-2.

[311] "Report of the Conference of the Parties on its Twentieth Session, Held at Lima From 1 to 12 December 2014", pp.2-4.

[312] "Climate Change 2014: Synthesis Report". Intergovernmental Panel on Climate Change. 2015. Retrieved from https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf , pp.2-26.

oceans and shifts in several severe weather and climate incidents have been noticed since around 1950. In the second topic, it is indicated that accumulated carbon dioxide emissions dramatically affect the average global warming by the late twenty-first century and beyond, the surface temperature is expected to rise over the twenty-first century under all emission scenarios, and climate change would intensify current risks and create new risks for natural and human systems, and many elements of climate change and its corresponding effects would remain for centuries, even if GHG emissions are reduced.[313]

The third topic mentions that successful decision-making to restrict climate change and its impacts could be instructed by a wide range of practical tools; global warming by the end of the twenty-first century would result in an extremely high risk of severe, widespread, and unavoidable effects internationally unless additional mitigation attempts are made, adaptation can minimize the dangers of global warming, and various mitigation directions are likely to curb global temperature to below 2°C relative to pre-industrial levels. In the last topic, it is stated that common core elements back adaptation and mitigation actions; adaptation and mitigation alternatives exist in all sectors, but their setting for implementation and the possibility of minimizing climate-related risks varies across industries and regions; effective adaptation and mitigation actions would rely on policies and measures at various levels such as international, regional, national, and sub-national, and that climate change is a threat to sustainable development.[314]

In addition to the Lima Call for Climate Action and the IPCC's Fifth Assessment Report, Peru also hosted CMP 10. At the end of the meeting, the parties adopted eight decisions. These decisions are made on the report of the AFB, assessment of the AF, the deadline for finalization of the expert review processes, guidance to the CDM and implementation of the Kyoto Protocol, accreditation-related synergy, the work program's results, and institutional, budgetary, and administrative issues.[315]

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[313] "Climate Change 2014: Synthesis Report", pp.2-16.

[314] "Climate Change 2014: Synthesis Report", pp.17-26.

[315] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its tenth session, held in Lima from 1 to 14 December 2014". United Nations. February 2, 2015. Retrieved from https://unfccc.int/resource/docs/2014/cmp10/eng/09a01.pdf#page=2 , p.1.

4.6. Paris Agreement and Climate Action (COP 21-COP 28)

From November 29 to December 13, 2015, the Paris Climate Change Conference occurred in Paris, France. The conference includes the 21st session of the COP and the 11th session of CMP 11. More than 28,000 representatives from the parties, observer organizations, and media participated in the events in Paris. In COP 21, the parties adopted 23 decisions. These decisions are composed of the Paris Agreement, the WIM, reports of the Adaptation Committee, the Standing Committee on Finance, the GCF, and the GEF, plans of national adaptation, financial information reporting methodologies, review of 2013–2015, work plan on the effects of implementing mitigation actions, promoting the development and transfer of climate technologies through the Technology Mechanism, relations between the financial and technological mechanisms, capacity building, alternative strategies for the comprehensive and long-term forest ecosystems, the extension of the LEG's authority, technical evaluation of Annex I parties' GHG inventories in 2016, institutional, budgetary, and administrative issues, program budget for the period 2016-2017 and the date and location of upcoming meetings.[316]

One of the significant outcomes of the conference was the acceptance of the Paris Agreement. The agreement is composed of 29 articles, and it is vital for promoting climate mitigation efforts, reducing GHG emissions, and achieving sustainable development. The first Article includes definitions. According to the second Article, the agreement facilitates the Convention's implementation by keeping the rise in the world's average temperature below 2°C above pre-industrial levels and pursuing actions to keep it at 1.5°C, enhancing the capacity for adaptation, and aligning capital inflows with a direction to low GHG emissions and development that is climate

[316] "Report of the Conference of the Parties on its Twenty-first Session, Held at Paris From 30 November to 11 December 2015". United Nations. January 29, 2016. Retrieved from https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf#page=2 ,p.1; "Report of the Conference of the Parties on its Twenty-first Session, Held at Paris From 30 November to 11 December 2015". United Nations. January 29, 2016. Retrieved from https://unfccc.int/resource/docs/2015/cop21/eng/10a02.pdf#page=2 ,p.1; "Report of the Conference of the Parties on its Twenty-first Session, Held at Paris From 30 November to 11 December 2015". United Nations. January 29, 2016. Retrieved from https://unfccc.int/resource/docs/2015/cop21/eng/10a03.pdf#page=2 ,p.1.

supportive. In this respect, the agreement would be put into practice to represent equality, the idea of CBDR, and the national capacities of each party.[317]

According to the third Article, all parties are required to make ambitious efforts to realize the goal of this Agreement. The fourth Article specifies that each party shall formulate, communicate, and sustain consecutive NDCs it expects to meet. Developed country parties shall keep taking the lead by establishing complete emission reduction objectives, and developing country parties should receive assistance in implementing the agreement. The article also states that all parties should provide the essential information when communicating their NDCs, each party should express its NDC every five years, and the parties should account for their NDCs.[318]

According to the fifth Article, the parties are urged to take measures to support and execute the current framework as outlined in relevant recommendations and decisions previously adopted under the Convention. The following article states that a mechanism is established on a voluntary principle to contribute to reducing GHG emissions and supporting sustainable development. The use of internationally transferred mitigation results to obtain NDCs under this Agreement shall be voluntary and authorized by participating parties. A body established by the CMA manages the body.[319]

Parties emphasized the global aim of improving adaptive capacity, increasing resilience, and lowering exposure to climate change in Article 7. The parties acknowledge that adaptation is a common issue having local, subnational, national, regional, and global aspects. The parties agree that the country should direct adaptation initiatives, take gender equality into account, be open to participation, and foster global collaboration. The article further encourages United Nations specialized organizations and agencies to assist the parties in their efforts to carry out the

[317] "Paris Agreement", pp.2-3.

[318] "Paris Agreement", pp.3-6.

[319] "Paris Agreement", pp.6-8.

activities. Each party should participate in adaptation planning and action implementation phases and shall produce and update an adaptation communication regularly.[320]

According to Article 8, the parties realize how critical it is to prevent, reduce, and deal with loss and damage resulting from climate change. Consequently, the CMA shall have power and direction over the WIM, and the WIM shall cooperate with existing authorities and expert groups in accordance with the Agreement. For Article 9, developed country parties should contribute financial reserves to help developing country parties with adaptation and mitigation efforts, keep taking the initiative in raising funds for the fight against climate change, and give transparent and consistent information on their assistance to developing country parties. Additionally, the Agreement's financial mechanism should be the Convention's financial mechanism, including its functioning bodies.[321]

According to Article 10, the parties are aware of the significance of technological innovation and acknowledge its significance in realizing mitigation and adaptation efforts. The Technology Mechanism created by the Convention operates in this field. A technological framework has also been developed to provide the Technology Mechanism's activities with a general direction. Developing country parties would receive assistance, including financial assistance, to implement this Article. As shown by Article 11, developing country parties' capacities and abilities shall be improved by capacity building under this Agreement. Such capacity building needs to be directed by the country's requirements, informed by lessons learned, and responsive to those needs. To increase the ability of developing country parties, all parties should work together, and the relevant institutional frameworks should support capacity building initiatives.[322]

Under Article 12, the parties should work together to implement measures to improve public access to information, public involvement, public education, and

[320] "Paris Agreement", pp.9-11.

[321] "Paris Agreement", pp.12-14.

[322] "Paris Agreement", pp.14-16.

public understanding of climate change. Article 13 developed a transparency framework to foster confidence and trust. The transparency framework would strengthen the transparency arrangements, enable functionality in applying this article's obligations, and give a clear understanding of climate change action. This article requires parties to provide national emissions inventory reports and information about NDCs, adaptation, financing, technology transfer, and capacity building. Support would be given to both the execution of this article and the development of developing nations' capability for transparency.[323]

According to Article 14, the CMA is mandated to evaluate the progress in implementing the Agreement regularly to determine whether the purpose of the Agreement and its long-term objectives are being met. The CMA would conduct its initial worldwide stocktake in 2023 and every five years afterward. The results of the global stocktake would help the parties update and improve their actions and support in line with the corresponding articles of the Agreement. Article 15 establishes a mechanism to consolidate the application of and encourage adherence to the principles of the Agreement. The mechanism would be composed of an expert-based committee that would function by the modalities and processes established by the CMA. According to Article 16, any organization or entity not a party to the Agreement is allowed to attend any CMA session. Additionally, the CMA would regularly examine how this Agreement is being implemented and take the necessary steps to ensure that it is done successfully. The secretariat would organize the CMA's initial session. Additionally, this Agreement shall be governed mutatis mutandis by the COP's rules of procedure and the Convention's financial processes.[324]

The secretariat of the Convention would function as the secretariat of the Agreement, according to Article 17. The secretariat would carry out the duties appointed to it by the CMA and the Agreement. Similarly, the SBSTA and the SBI of the Convention would function as the SBSTA and the SBI for the agreement according to Article 18. Article 19 states that upon a CMA decision, subsidiary organizations or other

[323] "Paris Agreement", pp.16-18.

[324] "Paris Agreement", pp.18-21.

institutional arrangements formed by or under the Convention, other than those included in the Agreement, could serve the Agreement. Such subsidiary entities and institutional structures may receive additional direction from the CMA.[325]

According to Article 20, countries and regional economic integration institutions that are the parties to the Convention should ratify, adopt, or approve this Agreement once it is signed. It would be available for signature at the UN headquarters in New York from April 22, 2016, until April 21, 2017. Following the date, it is closed for signature, this Agreement would be available for accession starting the next day. The depositary would receive any instruments of ratification, acceptance, approval, or accession.[326]

According to Article 21, this Agreement would come into effect 30 days after at least 55 parties to the Convention, which account for at least an estimated 55% of all worldwide GHG emissions, have submitted their documents of ratification. Articles 22, 23, and 24 states that the Agreement is subject to the mutatis mutandis principle on adopting amendments, annexes, and dispute settlement, respectively. Each party shall have one vote, as stated in Article 25.[327]

According to Article 26, the Agreement's depositary would be the UN's Secretary-General. No complaints may be submitted to this Agreement, as stated in Article 27. Under Article 28, a party could withdraw from this Agreement at any time by providing a written declaration to the depositary three years after this Agreement became effective for that party. Any party that leaves the Convention shall also be regarded as having left the Agreement. In Article 29, it is stated that the Arabic, Chinese, English, French, Russian, and Spanish versions of this Agreement are equally credible, and the original Agreement is deposited with the Secretary-General of the UN.[328]

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[325] "Paris Agreement", pp.21-22.

[326] "Paris Agreement", pp.22-23.

[327] "Paris Agreement", pp.23-24.

[328] "Paris Agreement", pp.24-25.

In addition to COP 21, Paris also hosted CMP 11. At the end of the meeting, the parties adopted 12 decisions. These decisions are composed of the report of the AFB, clarification in the Doha amendment, effects of turning decisions into action, training program, guidance to the CDM and implementation of the Kyoto Protocol, methods for the period of the 2016–2017 international transaction log fee collection, capacity building, technical review, and institutional, budgetary, and administrative issues and program budget for the period of 2016–2017.[329]

The UNFCCC climate conference took place in Marrakech, Morocco, between 7-19 November 2016. The conference hosted COP 22, CMP 12, and CMA 1. More than 22,500 party representatives, observer organizations, and media attended the conference.[330] COP 22 concluded with the acceptance of 25 decisions. These decisions include preparations for the CMA's inaugural meeting and the Paris Agreement's implementation, the Paris Committee on Capacity building, the WIM, a review of the Adaptation Committee and financial mechanism, plans for national adaptation, climate finance, a report of the Standing Committee on Finance, the GCF and the GEF, interconnections between the financial and technological mechanisms, technology transfer via the Technology Mechanism, examination of the framework's adoption in developing states, increasing the Doha Work Program's functionality, results of the first phase of the global assessment and review process (2014–2015), implementation of the global climate observation system, work of the CGE, changing climate and gender, institutional, budgetary, and administrative issues, date, and location of future meetings and the CMA's procedural guidelines.[331]

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[329] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eleventh session, held in Paris from 30 November to 13 December 2015". United Nations. January 29, 2016. Retrieved https://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf#page=2 , p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eleventh session, held in Paris from 30 November to 13 December 2015". United Nations. January 29, 2016. Retrieved https://unfccc.int/resource/docs/2015/cmp11/eng/08a02.pdf#page=2 , p.1.

[330] "Statistics on Participation and In-Session Engagement".

[331] "Report of the Conference of the Parties on its Twenty-second Session, Held at Marrakech From 7 to 18 November 2016". United Nations. January 31, 2017. Retrieved from https://unfccc.int/resource/docs/2016/cop22/eng/10a01.pdf#page=2 , p.1; "Report of the Conference of the Parties on its Twenty-second Session, Held at Marrakech From 7 to 18 November 2016". United Nations. January 31, 2017. Retrieved from https://unfccc.int/resource/docs/2016/cop22/eng/10a02.pdf#page=3 , p.1.

Besides COP 22, CMP 12 was also held in Morocco. After the meeting, the parties adopted 8 decisions. These are the review of the AF, a report of the AFB, guidance to the CDM and implementation of the Kyoto Protocol, examination of the joint implementation instructions, detailed evaluation of the structure for capacity building in developing nations' implementation, and institutional, budgetary, and administrative issues.[332] In addition to COP 22 and CMP 12, the first session of the CMA was organized in Marrakech. At the end of the first meeting, the parties adopted two decisions about the issues related to executing the Paris Agreement and the CMA's procedural guidelines.[333]

Under the chair of Fiji, the UNFCCC conference met in Bonn, Germany, from November 6-17, 2017. It included COP 23, CMP 13, and CMA 1-2. More than 15,000 people attended the conference.[334] The COP 23 meeting ended with the acceptance of 22 decisions. These decisions include the Fiji Momentum for Implementation, a platform for local communities and indigenous peoples, the development of a gender work plan, Koronivia cooperative agricultural initiatives, the WIM, climate finance, report of the Standing Committee on Finance, the GCF, and the GEF, assessment of financial mechanism, mechanisms for examining mitigation and adaptation and the CTCN, improving the development and dissemination of climate technologies through the Technology Mechanism, Paris Committee on Capacity building's report, assessment of the capacity building framework's execution, a training program for experts, institutional, budgetary, and administrative issues, program budget for the period 2018-2019 and date and location of upcoming meetings.[335]

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[332] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its twelfth session, held in Marrakech from 7 to 18 November 2016". United Nations. January 31, 2017. Retrieved from https://unfccc.int/resource/docs/2016/cmp12/eng/08a01.pdf#page=2 ,p.1.

[333] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the first part of its first session, held in Marrakech from 15 to 18 November 2016". United Nations. January 31, 2017. Retrieved from https://unfccc.int/resource/docs/2016/cma1/eng/03a01.pdf#page=2 ,p.1.

[334] "Statistics on Participation and In-Session Engagement".

[335] "Report of the Conference of the Parties on its Twenty-third Session, Held at Bonn From 6 to 18 November 2017". United Nations. February 8, 2018. Retrieved from https://unfccc.int/sites/default/files/resource/docs/2017/cop23/eng/11a01.pdf ,p.1; "Report of the

One of the vital outcomes of COP 23 is the adoption of Fiji Momentum for Implementation. The document affirms its ongoing commitment to accelerating the work program's completion and appreciates the progress in implementing the Paris Agreement. Additionally, it instructs the secretariat to create an online portal that would summarize the activity of the COP and the subsidiary and constituted bodies on the work program. Additionally, the Talanoa Dialogue was created to facilitate communication between the parties to advance the long-term climate objective, and it would begin in January 2018. The document highlights the significance of implementation and ambition until 2020 and how improved pre-2020 ambition could serve as a solid basis for improved post-2020 aspiration.[336]

Besides COP 23, CMP 13 was held in Germany. At the end of the meeting, seven decisions were accepted. These decisions cover the report of the AFB, assessment of the AF, guidance to the CDM and implementation of the Kyoto Protocol, institutional, budgetary, and administrative issues, program budget for 2018-2019, and budgeting and procedures for collecting the fees associated with the international transaction log.[337] Bonn also hosted the second part of the first session of the CMA, called CMA 1-2. In the end, the president of the CMA stated that the CMA had finished its work for the second half of its first session and would continue the activity for the third half of the first session in conjunction with COP 24 and CMP 14.[338]

From December 2 to 15, 2018, Katowice hosted the Katowice Climate Change Conference. The conference included COP 24, CMP 14, and CMA 1-3, and over

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Conference of the Parties on its Twenty-third Session, Held at Bonn From 6 to 18 November 2017". United Nations. February 8, 2018. Retrieved from https://unfccc.int/sites/default/files/resource/docs/2017/cop23/eng/11a02.pdf ,p.1.

[336] "Report of the Conference of the Parties on its Twenty-third Session, Held at Bonn From 6 to 18 November 2017", pp.2-3.

[337] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its thirteenth session, held in Bonn from 6 to 18 November 2017". United Nations. February 8, 2018. Retrieved from https://unfccc.int/sites/default/files/resource/docs/2017/cmp13/eng/07a01.pdf ,p.1.

[338] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the second part of its first session, held in Bonn from 6 to 18 November 2017". United Nations. February 8, 2018. Retrieved from https://unfccc.int/sites/default/files/resource/docs/2017/cma/eng/02.pdf ,p.5.

18,000 representatives from the parties, observer organizations, and media came to Poland for the climate meetings.[339] At the end of COP 24, 18 decisions were adopted. These decisions cover planning for the first CMA session and the implementation of the Paris Agreement, a platform for Local Communities and Indigenous Peoples, climate finance, reports of the Standing Committee on Finance, the Adaptation Committee, the Executive Committee of the WIM, the GCF and the GEF, plans of national adaptation, examination of the CGE's terms of reference and the CTCN, improving the development and dissemination of climate technologies through the Technology Mechanism, connections between the financial and technological mechanisms, report on the Paris Committee on Capacity building's technical progress, a work plan for LDCs, date and location of upcoming meetings and institutional, budgetary, and administrative issues.[340]

The Katowice Climate Package adopted at COP 24 covers the elements required to implement the Paris Agreement. The package outlines the crucial processes and frameworks needed to make the Paris Agreement successful. Achieving the transition to a low-emissions, climate-resilient society promises to increase trust and deepen international collaboration.

The Katowice achievement is a complex package reached after extensive technical deliberations and political compromise. It includes operational assistance on NDC information, adaptation, the Transparency Framework's operating rules, creating a committee to promote the Paris Agreement's implementation, technology transfer, and financial support. Other package components include limiting GHG emissions, mitigating loss and damage, assessing global progress, and planning for 2019 and beyond.[341]

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[339] "Statistics on Participation and In-Session Engagement".

[340] "Report of the Conference of the Parties on its Twenty-fourth Session, Held at Katowice From 2 to 15 December 2018". United Nations. March 19, 2019. Retrieved from https://unfccc.int/sites/default/files/resource/10a1.pdf ,p.1; "Report of the Conference of the Parties on its Twenty-fourth Session, Held at Katowice From 2 to 15 December 2018". United Nations. March 19, 2019. Retrieved from https://unfccc.int/sites/default/files/resource/10a2e.pdf ,p.1.

[341] "The Katowice climate package: Making The Paris Agreement Work For All". United Nations Framework Convention on Climate Change. 2022. Retrieved from https://unfccc.int/process-and-meetings/the-paris-agreement/katowice-climate-package#2019-and-beyond

Poland, at the same time, hosted CMP 14. The meeting ended with the adoption of five decisions, which are issues related to the AF, report of the AFB, mechanisms, work plan, and roles of the forum on the effect of implementing response measures under the Kyoto Protocol, guidance to the CDM, and institutional, budgetary, and administrative issues.[342] In addition to COP 24 and CMP 14, the third part of the first CMA session, called CMA 1-3, was convened in Katowice. The meeting ended with the acceptance of 18 decisions. These decisions include issues related to the execution of the Paris Agreement, issues related to the Articles of the Paris Agreement, guidance to mitigation, issues related to the AF, and establishing a new, comprehensive, quantifiable financial target, scope, and methods for the periodic evaluation and approaches to improve the execution of public access, education, training, public awareness, and engagement.[343]

The UNFCCC climate conference convened 2-15 December 2019 in Madrid, Spain. Madrid hosted COP 25, CMP 15, and CMA 2. More than 21,000 people participated in the climate meetings in Madrid.[344] COP 25 ended with the adoption of 18 decisions. These decisions cover the Chile Madrid Time for Action, the WIM, the Lima Work Plan, a forum of the Katowice Committee of Experts, a review of the UNFCCC reporting requirements for the parties' national communications, plans for national adaptation, a report on the Paris Committee on capacity building's technical progress, assessment of the Paris Committee on capacity building, execution of the capacity building framework in developing states, issues related to Standing Committee on Finance, reports of the GCF and the GEF, promoting the development and transmission of climate technologies through the Technology Mechanism, issues related to the Doha Work Plan, date and location of upcoming meetings, program

[342] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its fourteenth session, held in Katowice from 2 to 15 December 2018". United Nations. March 19, 2019. Retrieved from https://unfccc.int/sites/default/files/resource/08a1e.pdf ,p.1.

[343] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018". United Nations. March 19, 2019. Retrieved from https://unfccc.int/sites/default/files/resource/cma2018_03a01E.pdf ,pp.1-2; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018". United Nations. March 19, 2019. Retrieved from https://unfccc.int/sites/default/files/resource/CMA2018_03a02E.pdf ,p.1.

[344] "Statistics on Participation and In-Session Engagement".

budget for the period 2020-2021 and institutional, budgetary, and administrative issues.[345]

In COP 25, the parties adopted the Chile Madrid Time for Action. The statement acknowledges that multilateralism and the Convention play essential roles in tackling climate change and its effects, that action taken to combat global warming is most successful if it is based on science, and that the IPCC is important in informing the parties about scientific developments. The text also cites the parties' commitment and the urgent necessity for adaptation. Additionally, it highlights the ongoing difficulties that developing states still have in gaining access to resources for finance, technology, and capacity building, as well as implementing the Lima Work Program.[346]

Besides COP 25, CMP 15 was also organized in Madrid. The meeting ended with the adoption of seven decisions. These decisions include the Chile Madrid Time for Action, guidance to the CDM, a report of the AFB, a forum of the Katowice Committee of Experts, budget, and procedures for collecting the fees associated with the international transaction log, program budget for the period of 2020-2021, institutional, budgetary, and administrative issues.[347]

In addition to COP 25 and CMP 15, CMA 2 was hosted in Madrid. The meeting ended with the acceptance of 9 decisions. These decisions include the Chile Madrid Time for Action, the WIM, capacity building arrangements, a forum of the Katowice Committee of Experts, issues related to the Standing Committee on Finance,

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[345] "Report of the Conference of the Parties on its Twenty-fifth Session, Held at Madrid From 2 to 15 December 2019". United Nations. March 16, 2020. Retrieved from https://unfccc.int/sites/default/files/resource/cp2019_13a01E.pdf ,p.1; "Report of the Conference of the Parties on its Twenty-fifth Session, Held at Madrid From 2 to 15 December 2019". United Nations. March 16, 2020. Retrieved from https://unfccc.int/sites/default/files/resource/cp2019_13_a02E.pdf ,p.1.

[346] "Report of the Conference of the Parties on its Twenty-fifth Session, Held at Madrid From 2 to 15 December 2019", pp.2-3.

[347] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its fifteenth session, held in Madrid from 2 to 15 December 2019". United Nations. March 16, 2020. Retrieved from https://unfccc.int/sites/default/files/resource/cmp2019_08a01E.pdf ,p.1.

guidance to the GCF and the GEF, promoting the development and transmission of climate technologies and issues related to the articles of the Paris Agreement.[348]

The international COVID-19 outbreak forced a one-year postponement of the Glasgow Climate Change Conference, so the conference was organized from 31 October to 13 November 2021 in Glasgow, United Kingdom. The conference hosted COP 26, CMP 16, and CMA 3; around 30,000 people participated in Glasgow's climate meetings.[349] In COP 26, the parties adopted 23 decisions. These decisions cover the Glasgow Climate Pact, reports of the Adaptation Committee, the GEF, and the GCF, plans for national adaptation, climate finance, issues related to the Standing Committee on Finance, promoting the development and dissemination of climate technologies through the Technology Mechanism, examination of the Advisory Board of the CTCN's regulations, assessment of the CTCN, report on the Paris Committee on capacity building's technical progress, assessment of the capacity building framework's execution, new guidelines for the CGE, extension of the LEG's authority, a platform for Local Communities and Indigenous Peoples, the WIM, the Glasgow Work Program, climate change, and gender, date, and location of upcoming meetings, program budget for the period of 2022-2023 and institutional, budgetary, and administrative issues.[350]

One of the most important outcomes of COP 26 is the adoption of the Glasgow Climate Pact. The pact is organized under eight headings and contains 71 articles. The headings include science, adaptation, finance, mitigation, capacity building, technology transfer, loss and damage, implementation, and cooperation. In general, the document asserts the Convention's and multilateralism's critical roles in

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[348] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its second session, held in Madrid from 2 to 15 December 2019". United Nations. March 16, 2020. Retrieved from https://unfccc.int/sites/default/files/resource/cma2019_06a01E.pdf ,p.1.

[349] "Statistics on Participation and In-Session Engagement".

[350] "Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021". United Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cp2021_12_add1E.pdf ,p.1; "Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021". United Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cp2021_12a02E.pdf ,p.1.

combating climate change, the devastating effects of the coronavirus pandemic, the UNFCCC's significant achievements, the fact that climate change is a shared concern of humanity, the significance of maintaining the integrity of all ecosystems, and the significant roles of indigenous peoples, local communities, and civil society.[351]

The document also highlights the necessity of increasing motivation and initiative concerning mitigation, adaptation, and finance, considers capacity building improvements, insists on the significance of supporting cooperative action on technology development and transfer, asserts the need to ensure a transition process that reinforces sustainable development, and highlights the significance of international collaboration on these issues.[352]

Glasgow also hosted CMP 16. The meeting concluded with the acceptance of ten decisions. These decisions include the Glasgow Climate Pact, guidance to the CDM, a report of the AFB, an assessment of the AF, an evaluation of the capacity building framework's execution, a program budget for the period of 2022-2023, a financial plan for the global transaction records, and institutional, budgetary, and administrative issues.[353] In addition to CMP 16, CMA 3 was also convened in the United Kingdom. In the end, 24 decisions are accepted. These decisions cover the Glasgow Climate Pact, issues related to the Paris Agreement, the Standing Committee on Finance and the AF, NDCs, the Glasgow–Sharm el-Sheikh Work Program, the report of the Adaptation Committee, and the Paris Committee on capacity building's technical progress, guidance to the GEF and the GCF, technology transfer, the WIM, guidelines and practices for using and operating a public registration and Workplan for Glasgow Climate Empowerment.[354]

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[351] "Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021", p.2.

[352] "Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021", p.2.

[353] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its sixteenth session, held in Glasgow from 31 October to 13 November 2021". United Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cmp2021_08_add1E.pdf ,p.1.

[354] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021". United

The UNFCCC climate change conference convened on 6-18 November 2022 in Sharm El Sheikh, Egypt. The country hosted COP 27, CMP 17, and CMA 4. More than 36,000 people participated in the climate meetings in Sharm El Sheikh.[355]

The COP meeting ended with the adoption of 27 decisions. These decisions include the Sharm el-Sheikh Implementation Plan, regulations for funding to react against loss and damage, revision of modalities, approaches, and rules, report of the Adaptation Committee, NAPs, issues related to the LDCs, long-term climate finance, issues related to the SCF, reports of the GCF and the GEF, technology transfer mechanisms, gender action plan, date, and location of upcoming meetings, and institutional, budgetary, and administrative issues.[356]

One of the outcomes of the meeting was the adoption of the Sharm El Sheikh Implementation Plan. The plan has 16 headings and covers a variety of issues. These issues are science, increasing ambition and execution, energy, mitigation, adaptation, loss and damage, early notice and regular monitoring, finance, transfer of technologies, capacity building, stocktake, ocean, forest, agriculture, and increasing implementation. The Plan also supports the crucial role of multilateralism founded on UN values and principles, highlights the need for progress toward sustainable development, recognizes that climate change is a shared concern of humanity,

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Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cma2021_10a01E.pdf ,p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021". United Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/CMA2021_L10a2E.pdf ,p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its third session, held in Glasgow from 31 October to 13 November 2021". United Nations. March 8, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/CMA2021_10_Add3_E.pdf ,pp.1-2.

[355] "Statistics on Participation and In-Session Engagement".

[356] "Report of the Conference of the Parties on its twenty-seventh session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/cp2022_10a01_E.pdf ,p.1; "Report of the Conference of the Parties on its twenty-seventh session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/cp2022_10a02E.pdf ,p.1; "Report of the Conference of the Parties on its twenty-seventh session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/cp2022_10a03E.pdf ,p.1.

stresses the need to maintain the integrity of all ecosystems, and highlights the significance of safeguarding ecosystems.[357]

Sharm El Sheikh also hosted CMP 17. The meeting ended with the acceptance of nine decisions. These decisions cover guidance to the CDM and the execution of the Kyoto Protocol, a report of the AFB, an assessment of the AF, the Compliance Committee, and institutional, budgetary, and administrative issues.[358] Besides CMP 17, CMA 4 was also convened in Egypt. In the end, 24 decisions are accepted. These decisions include the Sharm el-Sheikh Implementation Plan, regulations for funding to react against loss and damage, Glasgow–Sharm el-Sheikh Work Program, new collective measurable goals for climate finance, report of the Adaptation Committee, issues related to the LDCs, the SCF and the AF, guidance to the GCF and the GEF and increasing technology transfer.[359]

The UNFCCC climate change conference convened from 30 November to 13 December 2023 in Dubai, United Arab Emirates. The country hosted COP 28, CMP 18, and CMA 5. More than 70,000 people participated in the climate meetings in Dubai.[360] The COP gathering ended with the adoption of 19 decisions. These decisions are development of the new funding mechanisms, Santiago network for preventing, reducing, and dealing with loss and damage related to the negative impacts of climate change under the WIM, Executive Committee Report of the

[357] "Report of the Conference of the Parties on its twenty-seventh session, held in Sharm El Sheikh from 6 to 20 November 2022", pp.2-9.

[358] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventeenth session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/cmp2022_09a01E.pdf ,p.1.

[359] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fourth session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cma2022_10_a01E.pdf ,p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fourth session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cma2023_10a02E.pdf ,p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fourth session, held in Sharm El Sheikh from 6 to 20 November 2022". United Nations. March 17, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/cma2022_10a03E.pdf ,pp.1-2.

[360] "Statistics on Participation and In-Session Engagement".

WIM, long-term financing for climate change, issues related to the SCF, report of the GCF and GEF, compiling, synthesizing, and summarizing the workshop conducted during the session on biennial communications regarding Article 9, paragraph 5, of the Paris Agreement, promoting the advancement and transfer of climate technologies by the Technology Mechanism, the interconnections between the Technology Mechanism and the Financial Mechanism, 6th assessment report of the IPCC, gender and climate change, date, and location of upcoming meetings, and institutional, budgetary, and administrative issues.[361]

Dubai also hosted CMP 18. The event concluded with the adoption of seven decisions. These decisions guide the CDM, issues related to joint implementation and AF, the allocation of funds for the global transaction log, and institutional, budgetary, and administrative issues.[362]

Besides CMP 18, CMA 5 also took place in Dubai. In the meeting, 21 decisions were adopted. These are composed of findings of the global stocktake, international target for adaptation, just transition work programme, development of the new funding mechanisms, issues related to the SCF and AF, regulations for the GCF and GEF, technical status report and guidelines for reference of the Paris Committee and 6th assessment report of the IPCC.[363]

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[361] "Report of the Conference of the Parties on its twenty-eighth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cp2023_11a01E.pdf, p.1; "Report of the Conference of the Parties on its twenty-eighth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cp2023_11a02E.pdf , p.1.

[362] "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighteenth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cmp2023_09a01E.pdf, p.1.

[363] "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cma2023_16a01E.pdf, p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cma2023_16a02E.pdf, p.1; "Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023". United Nations. April 5, 2024. Retrieved from https://unfccc.int/sites/default/files/resource/cma2023_16a03E.pdf, p.1.

4.7. Conclusion

The chapter analyzed climate meetings of the UNFCCC based on a historical timeline from 1995 to 2023. In other words, it examined COP 1 to COP 28 to reveal the outcomes and progress in these meetings since 1994. In addition to the UNFCCC meetings, the chapter includes the CMP and the CMA consultations. The UNFCCC climate conferences are crucial for mitigating climate change for several reasons. Representatives from the parties attend these events to announce their NDCs for reducing GHG emissions. It serves as a forum for the latest climate science and research to be shared and discussed among the international community. It also functions as a place to discuss and negotiate finance and support mechanisms to assist developing countries in reducing their GHG emissions. The COP, the CMP, and the CMA meetings are also an opportunity for states to collaborate, share experiences, and create common approaches to deal with the problem of climate change on a global scale.

Since 1995, the parties have adopted several documents and agreements in different rounds of meetings. In COP 2, the parties adopted the Geneva Declaration, which reasserts the commitments made under the Convention. In COP 3, the Kyoto Protocol was adopted, establishing binding emissions reduction targets for the parties. In COP 4, the Buenos Aires Plan of Action emphasizes strengthening the implementation of the Convention. Marrakech Declaration and Delhi Declaration, which were adopted consecutively in COP 7 and COP 8, underline the social and economic development of developing states and the eradication of poverty. The Bali Action Plan accepted in COP 13 stresses the effective implementation of the convention. Copenhagen Accord of COP 15 emphasizes climate change as one of the world's most significant issues and urges the parties to address it according to the CBDR idea.

In COP 16, the Cancun Agreements mainly underline the effective implementation of the Convention. Lima's Call for Climate Action of COP 20 emphasized strengthening adaptation action. In COP 21, the Paris Agreement was adopted. The agreement sets the goal of limiting global warming to below 2°C above pre-industrial

levels and pursuing efforts to limit warming to 1.5°C. Fiji Momentum for Implementation and the Katowice Climate Package, which was adopted in COP 23 and COP 24 consecutively, underscores the effective implementation of the Paris Agreement.

The Chile Madrid Time for Action of COP 25 underlines the importance of the Convention and the urgency for adaptation. In COP 26, the Glasgow Climate Pact was adopted, which highlighted the crucial role of the Convention in combating climate change and required actions to be taken for climate change mitigation. In COP 27, the Sharm El Sheikh Implementation Plan underlined increasing implementation and ambition as well as enhancing sustainable development. Lastly, COP 28 aimed to accelerate global climate action by highlighting the need for immediate, substantial reductions in GHG emissions and strengthening commitments to finance and support climate adaptation and mitigation initiatives, particularly in vulnerable countries.

Overall, the UNFCCC climate conferences have been instrumental in advancing global efforts to tackle climate change. The development and outcomes of the UNFCCC climate conferences are remarkably consistent with neoliberal institutionalist theoretical assumptions about how international institutions promote cooperation in addressing challenging global climate issues. The climate meetings result in countries making commitments and taking actions to reduce GHG emissions and transition to low-carbon economies, as well as agreements on providing financial, capacity building, and technology transfer support to developing countries.

Also, the meetings establish processes for monitoring, reporting, and reviewing the progress made by countries in implementing their commitments and agreements. In summary, as neoliberal institutionalism recognizes, the outcomes and progress of the UNFCCC meetings demonstrate the importance of international interaction and cooperation and the need for countries to work together to address the global challenge of climate change.

CHAPTER 5

INDIA

5.1. Introduction

This chapter examines India's climate policy framework, drawing insights from official documents submitted to the UNFCCC and analyzing India's evolving position across the various UNFCCC meetings, from COP 1 to COP 28. As one of the world's largest and fastest-growing economies, India's climate policies, strategies, and positions are pivotal in the global efforts to mitigate and adapt to climate change. The examination of India as a case study will provide insights into the complexities of addressing emissions in a populous and developing country. Moreover, India's role as a representative of developing nations in global climate governance highlights the dynamics between developed and developing countries.

In this realm, India’s NDCs, BUR, NAPCC, and Long-Term Low Carbon Development Strategy will be analyzed in this chapter. After presenting climate policies and approaches, India’s arguments, positions, and priorities in the UNFCCC meetings will be presented. In the meetings, India also engaged in joint negotiations with the G-77/China, the LMDCs, and the BASIC coalitions. Hence, these coalitions' positions and arguments are also included in the analysis to depict a clear picture of climate change negotiations.

By closely studying India's official submissions to the UNFCCC and examining its stance deeply throughout the UNFCCC meetings, this chapter aims to comprehensively understand India's policy framework, priorities, and positions in climate meetings by considering the coalitions of which the country is a member. Also, this chapter explores India's interaction with international climate institutions

and coalitions and its influence on the country's climate policies through the framework of neoliberal institutionalism. According to neoliberal institutionalism, even in anarchic international structures, international institutions can promote cooperation by lowering transaction costs, disseminating information, establishing regulations, and developing frameworks for collective action. Hence, this theoretical framework is essential for understanding India's approach to global climate governance. By delving into India's climate policy intricacies, this chapter sheds light on the country's approach to addressing climate change and its contributions to international climate negotiations.

5.2. Climate Policy Framework

The first NDC of India submitted to the UNFCCC in 2015 includes eight targets. These are to advance and spread a sustainable, healthy way of life grounded on the customs and principles of conservation and moderation, to adapt a more environmentally friendly and cleaner path than others have before taken at a similar level of economic growth, to lower the emissions intensity of its GDP by 33% to 35% from 2005 levels by 2030, to have approximately 40% cumulative capacity added from non-fossil fuel-based energies by 2030, with the assistance of technology transfer and international financing, including from the GCF, to increase the amount of forest and tree cover by 2030, adding 2.5–3 billion tonnes of CO2 equivalent as a carbon sink.

Also to increase investments in climate-vulnerable development sectors, including as agriculture, water resources, the Himalayan region, coastal regions, health, and disaster management, to raise new and extra funds from developed states in order to carry out mitigation and adaptation measures in light of the available resources and the resource gap and to develop capabilities, set up national and international frameworks for rapid adoption of innovative climate technology in India and for joint, cooperative research and development for future technological developments.[364]

[364] "India's Intended Nationally Determined Contribution: Working Towards Climate Justice". United Nations Framework Convention on Climate Change. October 2, 2016. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/INDIA%20INDC%20TO%20UNFCCC.pdf ,p.29.

In 2022, the country updated three out of its eight targets. The new versions of the targets are the following: to advance and spread a healthy, sustainable way of life based on customs and principles of moderation and conservation, mainly through a broad initiative for "LIFE"- "Lifestyle for Environment" as a means of reversing climate change, to lower the emissions intensity of its GDP by 45% from 2005 levels by 2030 and to have around 50% cumulative capacity added from non-fossil fuel-based energies by 2030, with the assistance of technology transfer and international financing, including from the GCF.[365] Compared to the first NDC, India incorporated the LIFE movement, which is a massive worldwide movement driven by India that encourages people to protect the environment on a personal and local level, into the second NDC. Also, the country increased its commitment to decreasing the emission intensity of its GDP from 33-35% to 45% and increased its commitment to have non-fossil fuel energy cumulative capacity from 40% to 50%.

In the third BUR, national circumstances, inventories, and actions of India were presented. The report is the last BUR submitted by the country in 2021. According to the report, India's GHG emissions increased from 1.214 MtCO2 equivalent in 1994 to 2.839 MtCO2 equivalent in 2016 without LULUCF. When LULUCF was included, the emissions increased from 1.229 MtCO2 equivalent to 2.531 MtCO2 equivalent from 1994 to 2016.[366] From 1994 to 2016, the energy sector had the greatest share in GHG emissions, followed by agriculture, industrial processes, and product use. According to the report, the primary sources of total GHG emissions include CO2 emissions from the consumption of fossil fuels, methane emissions from livestock, and increased aluminum and cement manufacturing.[367] The report elaborates on India's National Action Plan on Climate Change (NAPCC) for addressing climate change.

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[365] "India's Updated First Nationally Determined Contribution Under Paris Agreement". United Nations Framework Convention on Climate Change. August 26, 2022. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-08/India%20Updated%20First%20Nationally%20Determined%20Contrib.pdf ,pp.1-2.

[366] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. February 20, 2021. Retrieved from https://unfccc.int/sites/default/files/resource/INDIA_%20BUR-3_20.02.2021_High.pdf p.145.

[367] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.145.

5.3. National Action Plan on Climate Change (NAPCC)

In 2008, India published the NAPCC to adapt to climate change and ensure sustainable development. In order to realize it, the NAPCC is grounded on seven guiding principles. These are (1) ensuring the safety of the most vulnerable and disadvantaged groups in society by pursuing inclusive, environmentally friendly, and climate change-aware growth, (2) pursuing national growth goals through a qualitative shift in strategy that improves ecological sustainability and results in greater reductions in GHG emissions, (3) designing processes for end use that are efficient and affordable, (4) employing appropriate technologies broadly and rapidly for both adaptation and mitigation of GHG emissions, (5) developing novel and creative commercial, governmental, and volunteer structures to support sustainable development, (6) implementing programs through forming special relations, such as those with organizations in civil society and the local government as well as through public-private partnerships and (7) embracing international collaboration for research, development, sharing, and technology transfer made possible by extra financial resources and a global IPR policy that supports technology transfer to developing nations under the UNFCCC.[368]

Eight national missions were outlined in the NAPCC to achieve India's goals for sustainable development. These missions are the National Solar Mission, the National Mission for Enhanced Energy Efficiency, the National Mission on Sustainable Habitat, the National Water Mission, the National Mission for Sustaining the Himalayan Ecosystem, the National Mission for a Green India, the National Mission for Sustainable Agriculture, and the National Mission on Strategic Knowledge for Climate Change.[369] These missions will be summarized in general terms in the following paragraphs.

The National Solar Mission encourages using solar energy for various purposes, particularly in generating power. Additionally, it encourages combining solar energy

[368] "National Action Plan on Climate Change". Ministry of Environment, Forest and Climate Change of Government of India. 2008. Retrieved from https://moef.gov.in/wp-content/uploads/2018/04/Pg01-52_2.pdf, p.4.

[369] National Action Plan on Climate Change", pp.5-7.

alternatives with other renewable energy sources, such as biomass and wind. In brief, the National Solar Mission is in charge of (a) setting up commercial and nearly commercial solar technologies in the country; (b) building a solar research facility at a current facility to bring together the various research, development, and demonstration actions being carried out in India in both the public and private sectors; and (c) achieving connected private-sector production capacity for solar products such as materials, tools, cells, and modules. (d) linking up Indian research programs with international programs to foster collaborative research, obtain technology where needed, and modify the technology obtained to suit Indian requirements. (e) providing financial support for the abovementioned activities through government grants supplemented by financing made available under global climate mechanisms and revenues from research funded by the Mission. Hence, the mission's ultimate goal is to create a solar sector in India that can produce solar energy at a competitive price with fossil fuel alternatives.[370] In this mission, India targeted to generate 100 GW of solar energy by 2022. The goal of 100 GW of solar energy will be reached in seven years, beginning in 2014-2015.[371]

The National Mission for Enhanced Energy Efficiency in Industry is crucial since less fuel and material use results in less emission of air pollutants, solid waste, and wastewater. The mission calls on specific reductions in energy consumption in major energy-consuming sectors, offers tax incentives for promoting energy efficiency, develops energy efficiency financing tools to enable public-private partnerships, and offers fiscal incentives to increase efficiency. Hence, the mission offers energy efficiency solutions for various industries.[372]

The National Mission on Sustainable Habitat consists of three parts: encouraging energy efficiency in commercial and residential properties, managing municipal solid waste, and encouraging public transportation. For energy efficiency in buildings, updated energy regulations for buildings, rational energy pricing, financial incentives

[370] National Action Plan on Climate Change", pp.19-21.

[371] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.200.

[372] National Action Plan on Climate Change", p.22.

for energy efficiency, and training of officials are identified.[373] The National Environment Policy from 2006 was utilized to determine waste management procedures. The policy calls for the elimination of obstacles to the beneficial use of non-hazardous materials, the implementation of effective public-private partnerships for the functioning of hazardous and non-hazardous waste disposal facilities on the payment of user fees, surveying toxic and hazardous waste sites, the creating of a national inventory of them, keeping track of their movement online, legalizing and bolstering informal sector recycling and collection networks, and improving their access to capital and technology.[374]

For promoting public transport, the following actions are determined: facilitating the use of interior and coastal rivers for shipping, promoting energy research and development for railways, implementing suitable transportation pricing mechanisms, strengthening regulatory rules, developing measures to encourage investment in the creation of high-capacity public transportation networks, discarding the old vehicles, establishing a demonstration center to promote car recycling, establishing a research center to support innovative engine design and granting tax incentives and encouraging investment in the material recovery from waste vehicles.[375]

The National Water Mission has five elements: research on groundwater supplies management, the control and management of groundwater resources, modernization of wastewater drainage networks and freshwater storage facilities, preservation of wetlands, and development of desalination tools. Research on groundwater supplies covers assessing river flow rates in highlands, adapting climate change simulations to local water systems, creating models of digital elevations, identifying high-risk flood zones and creating flood management plans, increasing the surveillance of glacial and seasonal snowfall and planning for the management of watersheds in mountainous locations.[376] Management of groundwater resources covers enforcing

[373] National Action Plan on Climate Change", pp.25-26.

[374] National Action Plan on Climate Change", p.29.

[375] National Action Plan on Climate Change", pp.30-31.

[376] National Action Plan on Climate Change", p.31

artificial recharge and water harvesting requirements in urban areas, promoting recharging the sources and locations of deeper groundwater reservoirs, ensuring appropriate industrial waste management, and governance of electricity rates for irrigation.[377]

Modernization of wastewater drainage networks and freshwater storage facilities includes emphasizing watersheds that are sensitive to fluctuations in flow and creating decision support systems to enable swift and effective responses, restoring old water tanks, generating models for stormwater flows and evaluating stormwater management capabilities, strengthening ties between wetland protection and afforestation programs and increasing storage capacities of hydro projects.[378] The preservation of wetlands covers environmental evaluation and impact examination of wetlands-related development projects, creating a wetlands inventory, catchment modeling, surveying and analyzing land use trends, increasing public awareness of the value of wetland ecosystems, and developing and executing a regulatory framework.[379] Finally, the section on developing desalination tools references the 11th plan, which indicates desalinating seawater and brackish water, recycling and reusing water, and developing technologies for cleaning water.[380] In this national mission, India is targeting an increase in water consumption efficiency by 20%.[381]

The National Mission for Sustaining the Himalayan Ecosystem is essential for a better knowledge of ecosystem changes and their effects and to assume more responsibility for managing ecological resources. Hence, it is essential to continue and improve observation of the Himalayan ecosystem and its implications of a change in glacier mass on river flows. The mission gives reference to the National Environment Policy, which states implementing effective watershed management and land-use planning strategies, utilizing best practices for constructing buildings in

[377] National Action Plan on Climate Change", p.31.

[378] National Action Plan on Climate Change", p.32.

[379] National Action Plan on Climate Change", p.32.

[380] National Action Plan on Climate Change", p.32.

[381] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.202.

mountainous areas, promoting the development of traditional agricultural types and gardening, encouraging ecotourism, and taking steps to control the flow of tourists visiting mountainous areas.[382]

The National Mission for a Green India will have two goals: expanding forest cover and density across the country and preserving biodiversity. The section on expanding forests and forest densities covers teaching in silvicultural approaches for rapidly growing and environmental-hardy tree varieties, controlling fragmentation of forests, increasing public and private investment in plantation development, developing and improving community-based programs, putting the Greening India Plan into practice and developing approaches to managing wildfires in forests.[383] The section on preserving biodiversity includes ex-situ and in-situ preservation of genetic heritage, creating biodiversity records to document genetic variation and related traditional knowledge, and successfully implementing the Protected Area System under the Wildlife Conservation Act and the National Biodiversity Conservation Act.[384] In this national mission, India targeted to enhance the quality of forest coverage on an additional 5 million hectares, to increase the amount of forest/tree coverage on 5 million hectares of forest/non-forest areas, to raise the income of the 3 million families that rely on the forest for their primary source of income and to increase carbon dioxide capture annually by 50 to 60 million tonnes by 2020.[385]

The National Mission for Sustainable Agriculture concentrates on four critical areas for agriculture in dealing with climate change: dryland agriculture, risk management, accessibility of knowledge, and biotechnology utilization. Dryland agriculture covers developing crop types that are resistant to pests and droughts, enhancing means of soil and water conservation, consulting with stakeholders, training sessions, and demonstration activities for agricultural communities to share and disseminate agro-climatic knowledge and providing financial assistance to farmers to enable them to

[382] National Action Plan on Climate Change", p.33.

[383] National Action Plan on Climate Change", pp.33-34.

[384] National Action Plan on Climate Change", p.34.

[385] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.201.

invest in and implement appropriate climate-related technologies.[386] Risk management includes enhancing the present agriculture and weather insurance systems, creating and verifying weather derivative systems, developing web and regional language-based systems to facilitate weather-based insurance, identifying fragile ecoregions and sites of pests and diseases, and creating and putting into action region-specific emergency strategies based on threat and vulnerability circumstances.[387]

Accessibility of knowledge covers setting up regional databases on water supplies, land use trends genotypes, and soil conditions, monitoring of glaciers and ice masses, effects on water supplies, effects of soil erosion, and related effects on agricultural output in mountainous areas, generating specifics on off-season agricultural products, aromatic and medicinal herbs, greenhouse products, pasture expansion, agroforestry, livestock, and agro-processing and developing state-level agro-climatic atlases and the collection, distribution, and analysis of block-level data on socioeconomic characteristics, land utilization, and agro-climatic factors.[388]

Lastly, biotechnology utilization covers using genetic engineering to transform C-3 crops into more emissions-responsive C-4 crops, developing species with improved nitrogen and water use efficiency, and introducing dietary techniques for reducing heat exhaustion in dairy cattle.[389]

The National Mission on Strategic Knowledge for Climate Change has a wide-ranging initiative for advancing climate change knowledge. The mission includes improving knowledge of important occurrences and procedures in major substantive areas of climate research, enhancing the accuracy and precision of climate change estimates across the Indian subcontinent by using global and regional climate modeling, promoting observational infrastructure, data collection, and data

[386] National Action Plan on Climate Change", p.34

[387] National Action Plan on Climate Change", p.34.

[388] National Action Plan on Climate Change", p.35.

[389] National Action Plan on Climate Change", p.35.

integration, building necessary research facilities, enhancing accessibility to data, developing networks and strengthening human capital.[390]

After clarifying the eight national missions, the NAPCC explains other initiatives under six themes. These are GHG reduction in power reduction, programs for other renewable energy resources, responding to major environmental incidents through disaster management, safeguarding coastal locations and healthcare services, and developing adequate capacity at various governmental branches.[391] In the last section, the NAPCC mentions international cooperation under three topics. These are technology development and transfer, the CDM, and effective implementation of the UNFCCC. Among them, the last topic, the effective implementation of the UNFCCC, is worth mentioning. It is stated that the subsequent targets need to be addressed by further international collaboration on climate change. These are reducing the adverse effects of climate change through effective local adaptation strategies and international mitigation efforts in the negatively affected nations and people, promoting justice and equity in actions and initiatives, and sustaining the principle of the CBDR while taking action.[392]

5.4. Mitigation Actions

In the third BUR, India provided information about mitigation actions in the power sector and mitigation measures associated with energy efficiency, buildings, transport, agriculture, forestry, and waste. In the power sector, using renewable energy sources for electricity generation has received more attention from the Indian government, and supportive government regulations facilitate it. As a result, the share of renewable energy in total power generating capacity increased from around 5% in 2006 to around 24% in 2020 (without major hydro and nuclear). This means the installed renewable energy capacity has surpassed 90 GW as of 2020 (excluding hydro greater than 25 MW).[393] In addition to renewable energy, by 2020, the Nuclear

[390] National Action Plan on Climate Change", p.35.

[391] National Action Plan on Climate Change", pp.37-46.

[392] National Action Plan on Climate Change", pp.46-48.

[393] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.205.

Power Corporation India Limited (NPCIL) manages 22 operational nuclear power plants with a current capacity of 6,780 MW, representing roughly 2% of the nation's total capacity for electricity generation. Also, NPCIL has eight plants with a total 6,200 MW capacity in various development phases. By 2031, the current nuclear power usage of 6,780 MW is estimated to increase to 22,480 MW.[394]

Moreover, the Green Energy Corridor (GEC) initiatives have been launched to allow renewable power evacuation and reconfigure the system for future needs. The current initiatives are concentrated on enhancing institutions, resources, and protocols and making adequate investments in grid infrastructure. In addition, the Renewable Energy Management Centers (REMCs) are being established as part of the GECs. This enables India to integrate renewable energy resources.[395] Apart from renewables and nuclear, as of 2020, around 55% (205.4 GW) of India's installed capacity is generated by coal (including lignite). Energy facilities using coal or lignite account for over 73% of the whole generation. In order to reduce emissions and increase energy efficiency, the Clean Coal Technology Initiative (CCTI) was developed. The initiative includes the deployment of supercritical, ultra-supercritical, and advanced ultra-supercritical technologies in coal-based power plants and coal gasification.[396]

One of the essential components of India's mitigation strategy is energy efficiency. Energy intensity has gradually decreased between 2011-2012 and 2018-2019 due to structural changes, the rapid expansion of renewable energy sources, and the active and dedicated legislation enforcement to achieve this target. For 2018-19, implementing energy efficiency programs/schemes resulted in total energy savings of 23.7 Mtoe. These programs/schemes cover the Perform, Achieve, and Trade (PAT) Scheme, the Standards and Labelling Scheme, the Market Transformation for Energy Efficiency (MTEE) Achievements, the Energy Efficiency Financing Platform (EEFP), the Framework for Energy Efficient Economic Development (FEEED), the

[394] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.205.

[395] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.213.

[396] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.213-214.

Efficient Lighting in India, the Demand Side Management Programmes (DSM), the Capacity building of DISCOMs, the Zero Defect Zero Effect (ZED), the Carbon Capture, Storage/Utilization and energy access and clean fuels.[397]

By enforcing required building energy regulations, establishing voluntary rating systems, and implementing policies and programs to increase the efficiency of equipment and appliances, India has enhanced energy efficiency and reduced emissions in the building sector. The country created the Green Rating for Integrated Habitat Assessment (GRIHA) building-energy rating system based on 34 factors, including site design, conservation, and resource efficiency. In addition, India developed the National Building Code of India (NBC), the Energy Conservation Building Code, the Building Energy Efficiency Programme (BEEP), the Star Rating System for Existing Commercial Buildings, and the Eco Niwas Samhita for Residential Buildings. From 2017 to 2020, 10,344 buildings were included in energy efficiency initiatives to ensure all properties become energy efficient. Consequently, there have been approximately annual energy savings of 224 million kWh, peak demand avoidance of 75.64 MW, and a decrease in GHG emissions of 0.18 MtCO2 equivalent per year.[398]

In India, the transportation industry is expanding quickly and substantially impacts the entire country's GDP. However, the industry relies heavily on oil and is responsible for 12.1% of the nation's CO2 emissions (excluding LULUCF). In 2016, the transport sector in India represented 24% of commercial energy consumption, making it the second-highest energy consumer sector behind the industrial sector.[399] For mitigation in the transportation sector, India developed a series of initiatives, including the Emission Standards and the Auto Fuel Policy, the Fuel Efficiency Standard, the Ethanol Blended Petrol Programme (EBP), the Harit Path Mobile Application, the Green National Highways Corridor Project, the National Electric

[397] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.215-229.

[398] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.229-230.

[399] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.231.

Mobility Mission Plan (NEMMP) and other initiatives on rail transport, civil aviation, and shipping.[400]

In India, the agricultural industry employs about two-thirds of the labor force, which is essential to maintaining food and nutritional security. Several sectors that deal with milk, sugar, textiles, jute, and food rely on agricultural output for their raw material needs. The industry is responsible for 14.4% of all GHG emissions in India. Given the sector's significance for supplying the nation's expanding population's needs, the country has undertaken several steps to make the industry robust to climate change.[401]

These steps cover the National Mission for Sustainable Agriculture (NMSA), the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), the Solarization of Agriculture, the Crop Diversification Programme, the System of Rice Intensification (SRI), the Direct Seeded Rice (DSR) Cultivation, the Avoiding Crop Residue Burning, the Neem-coated Urea Produced, the Mission for Integrated Development of Horticulture (MIDH), the Balanced Ration for Livestock, bypass proteins for animals and mitigation reduction due to various activities.[402]

In India, 80.7 million hectares, or 24.5% of the country's land, are covered with trees and forests. Despite continuous development initiatives, India's forest and tree cover dramatically expanded. The total carbon stock in the forest was determined to be around 7.124 million tonnes, an increase of 42.6 million tonnes since 2017 and 502.6 million tonnes since 2005.[403] In the forestry sector, the country developed various initiatives for addressing climate change, such as the Forest (Conservation) Act, the Compensatory Afforestation Fund Management and Planning Authority (CAMPA),

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[400] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.232-244.

[401] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.244-245.

[402] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.245-251.

[403] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.251-252.

Progress made under plantation programs, the National Mission on Clean Ganga, the National Green Highways Mission, the Green India Mission, and other initiatives.[404]

Without LULUCF, the waste sector contributed 2.6% to India's GHG emissions in 2016. Waste management operations, including disposing of solid waste and treating and discharging wastewater, are significant sources of emissions from the waste sector. The government has significantly invested in solid waste management programs to manage waste effectively.[405] These programs include the Waste Management Regulatory Landscape, the Plastic Waste Management (PWM), the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Swachh Bharat Mission (SBM), and the Programme on Energy from Urban, Industrial and Agricultural Wastes/Residues.[406] Apart from the mitigation actions, India provided information about needs and assistance received for financial, technology, and capacity building.

5.5. Finance

Before describing its financial needs and the assistance it received, India briefly mentions the state of global climate financing. In 2015 and 2016, only $1.4 billion and $2.4 billion were distributed through the UNFCCC and international climate funds, respectively. This is a 13% reduction in UNFCCC and multinational climate funds compared to the 2013–2014 biennium. Of these funds, 51% were grants, and 44% were low-interest loans. The OECD-Development Assistance (DAC) states, excluding the Republic of Korea, received $1.7 billion in climate funds from MDBs in 2015 and $19.7 billion in 2016. However, most of this support comes in the kind of low-interest loans (74%) rather than grants (9%).[407]

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[404] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.252-259.

[405] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.264.

[406] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.264-265.

[407] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.335-336.

Despite numerous calls to preserve a balance between adaptation and mitigation financing, the report states that the focus of climate finance has remained on mitigation. Out of the yearly average of $31.7 billion in bilateral climate funding in 2015 and 2016, 50% was allocated to mitigation and 29% to adaptation. In the same duration, 53% of international climate funds and 79% of MDBs' climate funding were directed to mitigation. For international climate funds and MDBs, support for adaptation accounted for 25% and 21% of total climate funding, respectively. Also, only $90 million could be generated by the AF.[408]

According to estimations of India, the country requires around $206 billion (at prices for 2014–15) between 2015 and 2030 to implement adaptation measures in agriculture, forestry, fisheries infrastructure, water resources, and ecosystems. Along with this, further expenditures can be required to improve preparedness for disasters and endurance. By 2030, the mitigation measures for moderate, sustainable development will amount to about $834 billion at 2011 prices. Overall, the first NDC of India included an estimation stating that between 2015 and 2030, India needs to raise at least $2.5 trillion (at prices of 2014-2015) to fund its climate change initiatives.[409]

India's access to international climate funding is heavily weighted toward mitigation rather than adaptation and loans rather than grants. More crucially, a significant portion of the funds made accessible by these means, whether grants or loans, has been complemented by co-funding that India creates itself, frequently from public funds. The raised domestic finance often takes prominence over external funding in the projects. Whereas the GEF and the GCF granted funds totaling $165.25 million, domestic fundraising is $1.374 billion. As a result, it is stated that domestic fundraising is 8.3 times more than the funds allocated by the GCF and the GEF.[410]

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[408] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.336.

[409] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.336-337.

[410] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.338.

According to the report, the GCF has only provided funding to India totaling $177 million, of which only $77.8 million is grant-based funding. It is predicted that implementing NDCs would cost developing states more than $4 trillion. Therefore, if the present trend continues, the report states that these amounts would be severely insufficient to cover the needs. Also, the GEF's System for Transparent Allocation of Resources (STAR) allocation to India decreased by nearly half from GEF-6 ($87.88 million) to GEF-7 ($47.24 million). [411] Overall, according to the report, the country obtained 22 climate funds (9 loans and 13 grants) from multilateral climate funds, received 87 loans from MDBs since 2016, and obtained 60 funds (15 loans, 33 grants, and 12 other types of funds) from bilateral resources since 2014.[412]

Following an overview of the current state of international climate finance, the country reviews national actions. According to the report, India's climate initiatives are mainly funded domestically through financial assistance from the government, a combination of market mechanisms, fiscal tools, and policy measures. The eight missions of the NAPCC have specific financial allocations and other financial sources.

The Climate Change Action Programme (CCAP) is a scheme that went into effect in 2014 and has a five-year budget of ₹2,900 million. It aims to develop and improve the country's scientific and analytical ability to evaluate climate change and establish the proper institutional framework for scientific and policy initiatives and the execution of climate change-related measures. Another scheme, the National Adaptation Fund on Climate Change (NAFCC), was introduced in 2015 with a starting amount of ₹3,500 million. Its purpose is to finance adaptation activities that are not fully covered by the existing schemes/programs. The NAFCC authorized 30 projects totaling ₹8,474.70 million. These initiatives are being carried out in 26 Indian States in the agricultural, water, forestry, and coastal sectors to build the capacity for adaptation at the national and state levels. Moreover, green bonds have

[411] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.338-339.

[412] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.340-355.

been issued by financial, non-financial, or public institutions with the income used to finance green initiatives and assets in order to link the financial system with sustainability. India also participated in the International Platform on Sustainable Finance (IPSF) in 2019, intending to exchange information on green finance to build sustainable and environmental investments.[413]

5.6. Technology Transfer

Regarding the necessity for and specifications for technology, the report states that India's first and second BURs presented an extensive list of climate technologies for mitigation. However, no required technological resources were transferred, supported, or made accessible to India under the existing climate change structure. The report also states that India has relatively limited access to most climate adaptation technology in agriculture, forestry, water, and health sectors. According to the country's ecosystems and the local people, these technologies must be regionally modified and built up to achieve climate resilience.[414]

The report states that concerns about technological development and transfer need to be addressed in light of the CBDR's guiding principles. The UNFCCC explicitly states that transferring funds and technology from industrialized to developing countries is crucial in advancing climate action. The discussions over technology transfer often get heated, especially regarding the debate over the IPR regimes. Even though developed nations have been given IPR protection under the UNFCCC, research and studies show that developed countries' R&D and innovative efforts regarding low-carbon technologies are insufficient. The absence of information on green technology patents that have been utilized commercially presents another problem for technology transfer. Therefore, the country underlines the necessity to create a database that records patents for low-carbon technology and their level of commercialization. Based on the criteria of Indian patent law, India periodically

[413] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.357-361.

[414] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.368-371.

provides information on patents that have been worked on, including the number of licenses awarded.[415]

5.7. Capacity Building

Related to capacity building needs, the country identified gaps in weather and climate prediction, services for the weather, and climate and energy management systems. A high-resolution observing system is needed for climate and weather prediction to ensure no severe weather occurrence is missed. Anticipating catastrophic weather occurrences over the Himalayan area still requires some ability. The country needs a denser observational system over the Himalayan area and improved topographic and land-surface data representations in high-resolution computational models. The country needs capacity building for weather and climate services in the precision of monsoon estimates and precipitation forecasts throughout various periods. For energy management systems, additional funding and capacity building is needed to develop a comprehensive energy management system to create effective reporting and verification mechanisms.[416]

Capacity building is a part of certain initiatives that international organizations like the GEF support. The third BUR for India is being prepared as part of a GEF-funded initiative. The Fourth National Communication (4NC), the Fourth Biennial Update Report (BUR 4), and the First Biennial Transparency Report (BTR 1) of India to the UNFCCC were prepared with support from the GEF-7 cycle. India has also received the GCF's second phase of preparedness support grant. Moreover, for the duration of the BUR reporting period, India has signed bilateral agreements to exchange and improve expertise on climate change mitigation and adaptation with several nations, including France, Switzerland, Saudi Arabia, Guinea, the United Kingdom, and Brazil.[417]

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[415] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.371-375.

[416] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.381-382.

[417] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", p.383.

Developing capacity, providing training, and raising awareness are always included in governmental initiatives. Most of these initiatives have begun considering climate variability in their respective fields to promote sustainable development and economic progress. Under the National Mission on Strategic Knowledge for Climate Change, which is a part of the NAPCC, 11 centers of excellence were established, 23 R&D programs were initiated, 6 national network programs were launched, global technology watch groups were formed, and executing human capacity building initiatives in six institutions around the country. The report states that India's efforts to fulfill the NDCs independently necessitate frequent, significant upgrades to its technical human resources and infrastructure. Greater collaboration and engagement with international partners are necessary to exchange lessons learned and information networks on climate change mitigation and adaptation.[418]

5.8. Long-Term Low Carbon Development Strategy

India has outlined its strategy for achieving low-carbon development in its Long-Term Low Carbon Development Strategy, submitted to the UNFCCC in 2022. The strategy considers the development challenges India faces in the context of climate change and is mindful of India's cultural traditions, which emphasize a balance between human society and nature. The document is based on an examination of the quantitative and analytical studies that are currently accessible, synthesizes official and scholarly sources, and contributions from seven task groups that were formed to discuss various aspects of green development strategies in India.[419]

Four essential elements form the basis of India's Long-Term Low-Carbon Development Strategy. Firstly, India has made just a minor contribution to global warming. Despite accounting for 17% of the global population, India's annual carbon emissions per capita are around one-third of the world average. Hence, India has

[418] "India-Third Biennial Update Report to the United Nations Framework Convention on Climate Change", pp.384-386.

[419] "India's Long-Term Low-Carbon Development Strategy". Ministry of Environment, Forest, and Climate Change of Government of India. 2022. Retrieved from https://moef.gov.in/wp-content/uploads/2022/11/Indias-LT-LEDS.pdf,p.1.

historically contributed very little to total global GHG emissions.[420] Secondly, India has considerable energy demands for development since energy is critical to eliminating India's development deficiencies and reaching its developmental objectives and aspirations. Despite significant energy demand, India's annual primary energy consumption per capita is far lower than that of industrialized and developing countries. India is making constant efforts to separate emissions from growth further.[421]

Thirdly, according to national needs, India is dedicated to and actively pursuing low-carbon development initiatives. Critical development decisions and climate-specific practices influence India's mitigation measures. While guaranteeing sufficient access to energy for domestic consumption, energy security, and the growth of all economic sectors, India aspires to find and investigate options to transition to low-carbon development paths.[422] Lastly, India needs to strengthen its climatic resilience. India is sensitive to the effects of climate change due to its diversified terrain, which includes a broad range of habitats, from mountains to deserts, from interior to coastal locations, and from plains to jungles. Adaptation strategies and strengthening resilience are needed to preserve India's development achievements and human development outcomes and continue its growth and development.[423]

Seven crucial transitions to low-carbon development pathways form the foundation of India's Long-Term Low Greenhouse Gas Emission Development Strategy (LT-LEDS). The strategies of the LT-LEDS are: "(1) Low carbon development of electricity systems consistent with development, (2) develop an integrated, efficient, inclusive low-carbon transport system, (3) promote adaptation in urban design, energy and material-efficiency in buildings, and sustainable urbanization, (4) promote economy-wide decoupling of growth from emissions and development of an efficient, innovative low-emission industrial system, (5) CO2 removal and related

[420] "India's Long-Term Low-Carbon Development Strategy", p.1.

[421] "India's Long-Term Low-Carbon Development Strategy", p.2.

[422] "India's Long-Term Low-Carbon Development Strategy", pp.2-3

[423] "India's Long-Term Low-Carbon Development Strategy", p.3.

engineering solutions, (6) enhancing forest and vegetation cover consistent with socio-economic and ecological considerations, and (7) economic and financial aspects of low-carbon development."[424]

The first strategy of the LT-LEDS is the low carbon development of electricity systems consistent with development. The current policies and targets of that strategy include an ambitious goal of 50% non-fossil capacity by 2030 from renewable sources, supporting renewable energy by must-run status for renewable sources and the Renewable Purchase Obligations (RPO) for distribution enterprises, open access customers, captive energy facilities and enforcing policy on the Energy Storage Obligations (ESO), strengthening transmission systems in eight states with a high renewable energy supply with green energy corridors, enforcing policy and financial incentives including promotion of solar parks, greater depreciation of investments, a reduction of transmission fees, and capital subsidies for domestic solar roof-top and agricultural solar pumps, encouraging the use of hydropower through various governmental initiatives, reasonable utilization of fossil-fuel capacities, tripling nuclear power capacity by 2032, fostering competition in the markets for green power and facilitating the incorporation of renewable energy into the grid, control of energy usage in homes and closing ineffective thermal units.[425] The elements of the first LT-LEDS include increasing renewable energy sources and improving the power grid, investigating and promoting other environmentally friendly technologies, putting emphasis on the management of demand, efficient use of fossil fuels, evaluating the drivers of low carbon development, and deciding green taxonomy and optimal energy mix.[426]

The second strategy is to develop an integrated, efficient, inclusive, low-carbon transport system. The current policies and targets of that strategy cover 20% ethanol mix in the gasoline until 2025, advancing to Bharat Stage VI emissions by skipping Bharat Stage V emissions, complete electric car package including indigenous

[424] "India's Long-Term Low-Carbon Development Strategy", pp.4-6.

[425] "India's Long-Term Low-Carbon Development Strategy", pp.6-7.

[426] "India's Long-Term Low-Carbon Development Strategy", pp.6-7.

manufacture of vehicle components and batteries, infrastructure for battery charging investments, and demand accumulation, making Indian railways carbon neutral by 2030, developing initiatives to increase the amount of non-motorized public transportation, carrying out "A National Master Plan for Multi-modal Connectivity", connected and efficient freight systems and bringing India's logistics costs down to parity with international standards by 2030 through the National Logistic Policy.[427] The elements of the second LT-LEDS cover promoting enhanced energy efficiency, gradual switch to cleaner energies, shifting toward more public and cleaner forms of transportation, electrification in several modalities, management of demand and traffic control, and advanced transportation systems.[428]

The third strategy of LT-LEDS is to promote adaptation in urban design, energy and material efficiency in buildings, and sustainable urbanization. The current policies and targets of that strategy include the "National Urban Policy Framework (NUPF)", enforcing state planning legislations, local area initiatives, and the Town and Country Planning Act, providing homes for low- and middle-income people through he Pradhan Mantri Awaas Yojana (PMAY), enforcing energy-saving building codes, the National Building Code, and the Eco-Niwas Samhita, Development Control Regulations (DCR) and modeling laws, the "India Cooling Action Plan", green public transportation, the "National Solar Mission", the "National Mission on Sustainable Habitat", the "National Water Policy", the "National Environment Policy", the "National Urban Sanitation Policy", the "Jal Jeevan Mission, the "Atal Mission for Rejuvenation and Urban Transformation (AMRUT)" and the "Construction and Demolition Waste Management Rules, Extended Producer Responsibility, and Plastic Waste Management (Amendment) Rules"[429] The elements of the third LT-LEDS include incorporating adaptation strategies into the built environment, encourage efficient use of resources through urban planning standards, rules, and laws, support the planning, building, and operation of climate-responsive and resilient structures in current and future buildings and support the

[427] "India's Long-Term Low-Carbon Development Strategy", p.8.

[428] "India's Long-Term Low-Carbon Development Strategy", p.8.

[429] "India's Long-Term Low-Carbon Development Strategy", p.9.

supply of municipal services with a minimal carbon footprint by managing water, solid, and liquid waste effectively.[430]

The fourth strategy is to promote economy-wide decoupling of growth from emissions and the development of an efficient, innovative, low-emission industrial system. The current policies and targets of that strategy cover the "National Missions for Enhanced Energy Efficiency and Sustainable Habitat", the "Standards and Labelling Scheme", and the "Energy Efficiency Financing Platform", replacing fuels by promoting natural gas, material effectiveness through resource-efficient regulations, plastic, and e-waste recycling, and recycling of steel, infrastructure development and green hydrogen technologies, decarbonization of challenging industries through research and development and the "National Solar Mission"[431] The elements of the fourth strategy cover promoting the usage of natural and bio-based products while improving energy and resource sustainability, process and fuel substitution as well as electrification in production, increasing the efficiency of materials and recycling to support the circular economy, encouraging the development of green hydrogen technologies and infrastructures, evaluating alternatives for industries with challenging development and promoting sustainable development of micro, small, and medium-sized businesses.[432]

The fifth strategy of LT-LEDS is CO2 removal and related engineering solutions. The document states that Carbon Capture Utilization and Storage (CCUS) is very questionable in terms of its economic, technological, and political viability. In order to create technologies and approaches to tackle high capital costs, security, transportation, and high supplementary power consumption, this strategy emphasizes research and development as well as increasing human and infrastructural capabilities. It is impractical to update current thermal power-producing units for CCUS adoption until the technology is more affordable and energy efficient.[433] The

[430] "India's Long-Term Low-Carbon Development Strategy", p.9.

[431] "India's Long-Term Low-Carbon Development Strategy", p.10

[432] "India's Long-Term Low-Carbon Development Strategy", p.10.

[433] "India's Long-Term Low-Carbon Development Strategy", pp.10-11.

elements of the fifth strategy include developing skills, creating capacity, and planning to reduce impacts on society's economy, way of life, and ecology, and investigating models for public-private partnerships.

The sixth strategy of LT-LEDS is enhancing forest and vegetation cover consistent with socio-economic and ecological considerations. The current policies and targets of that strategy cover developing an extra carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent by 2030, the "National Mission for a Green India", the "National Afforestation Programme", the "Compensatory Afforestation Fund Management and Planning Authority", the "Nagar Van Yojana", the "National REDD+ Strategy", the "National Rural Livelihoods Mission", the "Forest Fire Prevention and Management Scheme", the AMRUT, rehabilitating 26 million hectares of damaged land by 2030, 12 national biodiversity objectives and making significant environmental initiatives by the National Highways Authority of India (NHAI) and the Indian Railways.[434] The elements of the sixth strategy cover restoration, preservation, and control of genetic resources found in plants, animals, and microbes in forests, tree rehabilitation, preservation and control beyond forests, and enhancing the infrastructure.[435]

The seventh strategy of LT-LEDS is the economic and financial aspects of low-carbon development. India has significant financial requirements and a domestic finance deficit, indicating additional foreign assistance is necessary. Predictions range around trillions of dollars by 2050 but differ amongst studies due to variations in coverage, assumptions, and modeling methodologies. It takes both domestic and foreign financial resources to be mobilized to meet the demands for financing. In this context, it is stated that developed states must fulfill their obligations regarding climate funding. Also, the financial components of the low-carbon transition can influence the international trade regime. India aims to ensure that international trade agreement requirements will not restrict the current policy space to support indigenous environmental goods and service providers. Therefore, it is underlined

[434] "India's Long-Term Low-Carbon Development Strategy", p.11.

[435] "India's Long-Term Low-Carbon Development Strategy", p.11.

that the country must find the ideal balance between the needs of development, business, and low-carbon paths.[436] The elements of the seventh strategy include evaluating the required financing, mobilizing, gaining access to, and distributing climate-related funding, particularly multilateral climate financing, integrating climate finance, transferring technology, creating capacity and international climate funding, connections to world trade and novel international frameworks for fostering innovation and technological advancement.[437]

Apart from the seven elements of LT-LEDS, India attaches importance to research and innovation. Most climate adaptation technologies used in areas such as agriculture, forestry, water, and health are currently accessible to a very limited extent in the country. To achieve climate adaptation in accordance with the nation's ecosystems and local population demands, these technologies need to be regionally adapted and scaled up, which requires significant financial assistance.[438] In the document, the country lists its technology needs as the following: photovoltaic solar energy, offshore wind, the Advanced Ultra Supercritical Coal Technology (AUSC), LED light source, air conditioning, production of iron and steel, biofuels, hydrogen, Lithium-Ion batteries. Moreover, investment is required in cement, iron, steel, and energy technologies.[439] The document also includes a list of the critical emerging technologies that will be needed in specific industries over the near future, emphasizing those that have already been researched in India. The list covers technologies from energy, industrial systems, and marine biotechnology sectors and gaps in research and innovation.[440]

Having elaborated on research and innovation, the following chapter of the document mentions adaptation and resilience. India is implementing a range of adaptation measures at different levels. The document states that India's NDCs and BURs

[436] "India's Long-Term Low-Carbon Development Strategy", pp.11-12.

[437] "India's Long-Term Low-Carbon Development Strategy", pp.5-6.

[438] "India's Long-Term Low-Carbon Development Strategy", p.62.

[439] "India's Long-Term Low-Carbon Development Strategy", pp.62-64.

[440] "India's Long-Term Low-Carbon Development Strategy", pp.64-69.

provide a concise overview of the country's adaptation efforts and objectives. The document also gives a place to India's key actions in 10 fields ranging from agriculture to disaster management.[441] To finance adaptation, it is stated that India had proposed an initial estimation in its NDC in 2015 that it would require about $206 billion (at 2014–15 prices) between 2015 and 2030 to execute its adaptation initiatives. However, according to the latest Ministry of Finance projection, India's total spending for climate change adaptation will amount to ₹85.6 trillion (at 2011-12 prices) by 2030.[442]

In the next chapter, the document elaborates on the LIFE mission announced by the Indian Prime Minister at COP 26 in 2021. LIFE is an international action to tackle climate change and turn it into a people's movement all over the world. The mission focuses on three significant changes in how people think about sustainability. Phase I of LIFE is changing demand. The first phase involves encouraging people to adopt reasonable environmental practices daily. Phase II of LIFE is changing supply. In the second phase, large-scale individual shifts in demand are anticipated to progressively drive markets and sectors to adapt and adjust supply and procurement to the evolved needs. Phase III of the LIFE is changing policy. The third phase covers changing significant industrial and governmental policies to promote sustainable production and consumption by shaping supply and demand characteristics in India and throughout the world.[443] The mission has 75 actions in 7 categories. The categories are: "Energy consumption, water consumption, reduced consumption of single-use plastic, adopting sustainable food systems, reduction of wastes, adoption of healthy lifestyles, and e-waste reduction."[444]

In the last chapter of the document, international collaboration is mentioned. The document states that India has recently launched several forward-thinking and interactive global initiatives, partnerships, and coalitions to address climate change

[441] "India's Long-Term Low-Carbon Development Strategy", p.72.

[442] "India's Long-Term Low-Carbon Development Strategy", p.74.

[443] "India's Long-Term Low-Carbon Development Strategy", pp.77-78.

[444] "India's Long-Term Low-Carbon Development Strategy", p.78.

and encourage stronger cooperation. The International Solar Alliance (ISA), the Green Grids Initiative-One Sun One World One Grid (GGIOSOWOG), the Coalition for Disaster Resilient Infrastructure (CDRI), the Infrastructure for Resilient Island States (IRIS) Initiative, and the Leadership Group on Industry Transition (LeadIT) are presented as examples.[445]

The document states that India has made significant advancements toward tackling global warming by decreasing the emissions in the country's economy and facilitating the transition to green energy as a climate-vulnerable state with a limited historical role in causing climate change and low historical and current per-capita emission levels. It is stated that India's announced climate goals can only be fully achieved if the UNFCCC and its Paris Agreement requirements for financial support, low-carbon technology transfer, and capacity building have been fulfilled. In this regard, it is asserted that developed countries need to take the lead in reducing emissions and setting up international climate finance and technology arrangements that address resource imbalances in the developing states.[446]

Finally, the document underlines that the amount of climate finance that is available to developing countries is insufficient to cover the needs for adaptation or mitigation as outlined in the NDCs, and the financial resources that are currently available tend to lean in favor of mitigation over adaptation, which has adverse effects for developing nations that are subject to climate-related disasters. Hence, it is stressed that achieving India's climate objectives would necessitate allocating new, extra, and climate-specific financial resources and assistance.[447] Also, it is stated that a coordinated international system is required to guarantee that challenges are eased to promote technology transfer from developed to developing nations. Hence, it is underlined that international collaboration is needed to provide financial and technological assistance to developing states.[448]

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[445] "India's Long-Term Low-Carbon Development Strategy", pp.81-82.

[446] "India's Long-Term Low-Carbon Development Strategy", p.83.

[447] "India's Long-Term Low-Carbon Development Strategy", p.84.

[448] "India's Long-Term Low-Carbon Development Strategy", p.84.

5.9. India in the UNFCCC Climate Change Conferences

Having elaborated on India's climate policy framework based on documents submitted to the UNFCCC, it is necessary to analyze how India positioned itself and negotiated climate issues with other countries during the UNFCCC meetings. India's involvement in UNFCCC meetings and participation in the meetings in various coalition groups illustrate fundamental principles of neoliberal institutionalism.

The theory asserts that states seek to pursue their interests by utilizing institutional frameworks that minimize uncertainty, enhance information exchange, and generate opportunities for mutual benefits. As a result, neoliberal institutionalism emphasizes that institutions assist states in addressing collective challenges and attaining absolute gains through interaction, whilst preserving their national interests. The analysis in this chapter will demonstrate how India has approached the issues discussed in each COP meeting and which issues India has favored and challenged in these negotiations. In the COP conferences, India has also negotiated actively with various groups, including the G-77/China, the LMDCs, and the BASIC. As a developing county, India has recognized the importance of collective action with similar developmental challenges and aspirations.

The G-77/China is a broader coalition of developing countries that aims to strengthen the collective voice of the developing states on climate change issues. India's involvement in the G-77/China group provides a platform to engage with diverse countries and work towards common goals. The LMDCs, which are grouped under the G-77/China, are a coalition of developing countries that share common concerns regarding the impact of climate change mitigation measures on their development goals and the need for financial and technological support from developed states. India's participation in the LMDC allows it to align its interests with other developing nations and collectively advocate for their concerns in the negotiations.

Additionally, India is a member of the BASIC group. The BASIC countries represent major emerging economies and play a crucial role in shaping climate negotiations. Through its participation in the BASIC group, India collaborates with other

influential countries to ensure that the interests of developing countries are effectively addressed in climate change discussions. Overall, apart from negotiating by itself, India's engagement with the G-77/China, the LMDCs, and the BASIC reflects its commitment to working collectively with other developing states to address the challenges posed by climate change while safeguarding their developmental aspirations.

In COP 1, India, backed by Indonesia, emphasized the need for an agreement imposing strict obligations solely on Annex I parties. Moreover, the G-77/China stressed that the COP's primary priority should be the execution of existing pledges, underlined that responsibilities should not be transferred from Annex I countries to non-Annex I countries, and generated a collection of potentially transferrable technologies.[449] In COP 2, during the discussions of the communications from non-Annex I parties, several delegations, including India, China, Kuwait, India, Costa Rica, the Philippines, Canada, the United States, and Japan, praised non-Annex I parties' cooperation initiatives and supported their enhanced reporting obligations. In the Ministerial Segment of COP 2, India, Cuba, the Philippines, and China underlined the lack of progress made by Annex I parties on financial assistance and technology transfer.[450]

At COP 3, the G-77/China stated that developing nations were the most prone to climate change and had the lowest capacity to respond, highlighted that the availability of funding and the transfer of technology was critical to the effective execution of the Convention by non-Annex I parties, underlined that significant effort would be required to promote developed country responsibilities and indicated that the principle of CBDR was essential to success.[451]

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[449] "Summary of the First Conference of the Parties for the Framework Convention on Climate Change: 28 March-7 April 1995". International Institute for Sustainable Development. April 10, 1995. Retrieved from https://enb.iisd.org/download/pdf/enb1221e.pdf ,pp.3-8.

[450] "Summary of the Second Conference of the Parties for the Framework Convention on Climate Change: 8-19 July 1996". International Institute for Sustainable Development. July 22, 1996. Retrieved from https://enb.iisd.org/download/pdf/enb1238e.pdf ,pp.4-8.

[451] "Summary of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997". International Institute for Sustainable Development. December 13, 1997. Retrieved from https://enb.iisd.org/download/pdf/enb1276e.pdf , pp.3-13.

At COP 4, the G-77/China declared that technology transfer would be difficult without substantial technical expertise, proposed focusing on technology transfer mechanisms and capacity building, stated concerns over rising emission patterns among Annex II countries, financial resources, and technology transfer initiatives, the absence of progress in the formulation of policies and measures, and reporting deficiencies by Annex I countries.[452] At COP 5, the G-77/China asked for sufficient financial resources, technical assistance, and capacity building for assisting non-Annex I parties in gathering data, identifying national emissions, and developing techniques for adaptation evaluation, contrasting altering the criteria for non-Annex I communications and proposed options on capacity building. Moreover, the G-77/China stated that Annex I countries had to follow up on their obligations to provide funding and technological transfer, underlined that capacity building is essential to enable significant involvement of developing nations, and pointed out a lack of funding.[453]

At COP 6, the G-77/China underlined a lack of funding and assistance for inventory collection and national communications and highlighted that the achievement of Annex I commitments was essential for the progress of developing nations.[454] In the second part of COP 6, the G-77/China stressed the urgency to address adverse impacts, support for legally enforceable implications for non-compliance, noted the absence of equality between Annex I parties and other parties, the necessity for special consideration for the LDCs, financial additionality, and equitable geographical allocation of the CDM initiatives.[455]

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[452] "Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change: 2-13 November 1998". International Institute for Sustainable Development. November 16, 1998. Retrieved from https://enb.iisd.org/download/pdf/enb1297e.pdf , pp.5-6.

[453] "Summary of the Fifth Conference of the Parties to the Framework Convention on Climate Change: 25 October- 5 November 1999". International Institute for Sustainable Development. November 8, 1999. Retrieved from https://enb.iisd.org/download/pdf/enb12123e.pdf, pp.4-13.

[454] "Summary of the Sixth Conference of the Parties to the Framework Convention on Climate Change: 13-25 November 2000". International Institute for Sustainable Development. November 27, 2000. Retrieved from https://enb.iisd.org/download/pdf/enb12163e.pdf, pp.4-7.

[455] "Summary of the Resumed Sixth Session of the Conference of the Parties to UN Framework Convention on Climate Change: 16-27 July 2001" International Institute for Sustainable Development. July 30, 2001. Retrieved from https://enb.iisd.org/download/pdf/enb12176e.pdf , pp.3-6.

In COP 7, the G-77/China expressed concern about the time gap between project approval and financing accessibility, the effect of currency changes, and the necessity for sufficient funding for support initiatives.[456] In COP 8, India highlighted the consideration of resource accessibility, institutional capacity building, and business sector engagement and stressed the importance of enhancing the reporting mechanism for Annex I parties. In the high-level segment, Indian Prime Minister Atal Bihari Vajpayee emphasized the significance of adaptation, vulnerability, and capacity building for developing countries and stated that developing country pledges were immature due to unequal per-capita emissions rights and variations in per-capita income between developing and developed states.[457]

At COP 9, the G-77/China urged for efficient assistance for technology transfer in non-Annex I parties and research to stimulate local-level capacity building.[458] At COP 10, the G-77/China highlighted Annex I parties' obligation for financial resource generation for adaptation, underlining the principle of CBDR, and stated that the COP and the GEF would collectively decide on the required funds.[459] At COP 11, the G-77/China highlighted the importance of innovative ways to technology transfer that would be compatible with the UNFCCC's goals, supported a high-level roundtable on technological cooperation and partnerships, pointed out the need for demonstration initiatives in developed and developing states and emphasized capacity building for the CDM.[460]

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[456] "Summary of the Seventh Conference of the parties to the UN Framework Convention on Climate Change: 29 October- 10 November 2001" International Institute for Sustainable Development. November 12, 2001. Retrieved from https://enb.iisd.org/download/pdf/enb12189e.pdf, p.8.

[457] "Summary of the Eighth Conference of the Parties to the UN Framework Convention on Climate Change: 23 October- 1 November 2002". International Institute for Sustainable Development. November 4, 2002. Retrieved from https://enb.iisd.org/download/pdf/enb12209e.pdf ,pp.5-11.

[458] "Summary of the Ninth Conference of the Parties to the UN Framework Convention on Climate Change: 1-12 December 2003". International Institute for Sustainable Development. December 15, 2003. Retrieved from https://enb.iisd.org/download/pdf/enb12231e.pdf, p.15.

[459] "Summary of the Tenth Conference of the Parties to the UN Framework Convention on Climate Change: 6-18 December 2004". International Institute for Sustainable Development. December 20, 2004. Retrieved from https://enb.iisd.org/download/pdf/enb12260e.pdf, pp-3-9.

[460] "Summary of the Eleventh Conference of the Parties to the UN Framework Convention on Climate Change and First Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: 28 November- 10 December 2005". International Institute for Sustainable Development. December 12, 2005. Retrieved from https://enb.iisd.org/download/asc/enb12291e.pdf, pp.4-13.

During COP 12 negotiations, many parties emphasized the need to agree on a post-2012 regime, including new commitments to tackle climate change in the post-2012 period. According to India, numerous significant Annex I countries failed to meet their Protocol commitments.[461] The key issue addressed at COP 13 was the need for a global framework to combat climate change after 2012 when the Kyoto Protocol's first commitment period ended. Regarding acceptance of the Bali roadmap, India effectively grasped the opportunity to finalize a roadmap agreement to bring additional emphasis to the fulfillment of developed country pledges on capacity building.[462]

In COP 14, India emphasized government-led initiatives in technology and financing and a system for developing states to obtain the necessary technologies.[463] In COP 15, India emphasized the need for Annex I parties to adopt deep emission cuts. Also, the G-77/China opposed attempts to transfer responsibilities to developing nations, highlighted shortcomings in the Convention's implementation, emphasized historical responsibility, and raised concerns about the growing rate of GHG emissions in Annex I countries.[464]

At COP 16, the G-77/China urged that the negotiations be driven by the parties, open and inclusive, called Annex I nations to narrow the gap between present emissions and reduction targets and supported assistance for implementing the NAPAs.[465] At

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[461] "Summary of the Twelfth Conference of the Parties to the UN Framework Convention on Climate Change and Second Meeting of the Parties to the Kyoto Protocol: 6-17 November 2006". International Institute for Sustainable Development. November 20, 2006. Retrieved from https://enb.iisd.org/download/pdf/enb12318e.pdf ,p.17.

[462] "Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007". International Institute for Sustainable Development. December 18, 2007. Retrieved from https://enb.iisd.org/download/pdf/enb12354e.pdf, p.20.

[463] "Summary of the Fourteenth Conference of Parties to the UN Framework Convention on Climate Change and Fourth Meeting of Parties to the Kyoto Protocol: 1-12 December 2008". International Institute for Sustainable Development. December 15, 2008. Retrieved from https://enb.iisd.org/download/pdf/enb12395e.pdf, p.16.

[464] "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009". International Institute for Sustainable Development. December 22, 2009. Retrieved from https://enb.iisd.org/download/pdf/enb12459e.pdf, pp.12-23.

[465] "Summary of the Cancun Climate Change Conference: 29 November – 11 December 2010". International Institute for Sustainable Development. December 13, 2010. Retrieved from https://enb.iisd.org/download/pdf/enb12498e.pdf, pp.3-23.

COP 17, the G-77/China urged Annex I parties to be more ambitious, emphasized low quantities of funding offered for adaptation, and proposed specifying the Technology Mechanism's framework for governance. Moreover, the BASIC addressed the main session for the first time as a unified negotiating bloc in COP 17. In the same session, BASIC stated that Durban's primary aim should be to identify a second commitment term.[466]

In COP 18, the G-77/China suggested addressing the funding gap, emphasizing the significance of financing, and emphasizing equality and the CBDR principle. Similar to the G-77/China, members of the BASIC stressed the need to address all aspects of the Bali Action Plan, and they called on developed states to increase their ambition to align with science and their historical responsibilities. Moreover, the LMDCs emphasized creating texts about adaptability, financing, technology, and capacity building.[467]

In COP 19, India emphasized the need for developed countries to raise their mitigation goals to at least 40% below 1990 levels, accelerate technology transfer, and deal with the IPRs. Moreover, the G-77/China stated concern about the lack of adaptation financing, called for international adaptation objectives, highlighted technology development and transfer for developing states, and called for establishing a framework that combines mitigation and adaptation measures with financing and technology. In addition, the LMDCs called for advancements in technology transfer, promoted the importance of linking the development of technologies and transfer to the financial mechanisms, pointed out the importance of capacity building, specified developed and developing countries' differentiated responsibilities in terms of commitments and reporting, and requested assistance to recognize developing countries' necessities.[468] In COP 20, India, Argentina,

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[466] "Summary of the Durban Climate Change Conference: 28 November - 11 December 2011". International Institute for Sustainable Development. December 13, 2011. Retrieved from https://enb.iisd.org/download/pdf/enb12534e.pdf, pp.10-30.

[467] "Summary of the Doha Climate Change Conference: 26 November-8 December 2012". International Institute for Sustainable Development. December 11, 2012. Retrieved from https://enb.iisd.org/download/pdf/enb12567e.pdf, pp.9-14.

[468] "Summary of the Warsaw Climate Change Conference: 11-23 November 2013". International Institute for Sustainable Development. November 26, 2013. Retrieved from https://enb.iisd.org/download/pdf/enb12594e.pdf, pp.10-13.

Venezuela, Jordan, Cuba, and Bolivia urged the implementation of the CBDR regarding mitigation. Moreover, South Africa and India stressed developed countries' responsibilities to give capacity building assistance to developing states.[469]

In COP 21, the LMDCs highlighted that developed states have historical obligations, developed states should have measurable objectives, the CBDR should be seized, and raised concern about the wording on nationally determined mitigation commitments.[470] At COP 22, the G-77/China highlighted the importance of coherence in finance, highlighted the importance of focusing on country-driven policies and developing countries' needs and concerns, and urged increased funding. In the same conference, the BASIC countries emphasized the importance of giving equal priority to pre-2020 concerns at the next UNFCCC conference, raising concerns that these topics were not fully addressed in Marrakech. Besides, the LMDCs underscored the need to clarify the scope of the NDCs and emphasized the relationship between nations' capacity and their capability to implement their pledges.[471]

At COP 23, the G-77/China underlined the critical need for pre-2020 action, adaptation as an immediate need for developing nations, and increased indigenous peoples' engagement in the UNFCCC process. In addition, the LMDCs suggested speeding up the execution of pre-2020. Moreover, the BASIC voiced concern over developed nations unilaterally establishing new standards for GCF financing and emphasized the role of stocktake sessions in pre-2020 in increasing overall ambition.[472] At COP 24, India standing in its national position, voiced concerns

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[469] "Summary of the Lima Climate Change Conference: 1-14 December 2014". International Institute for Sustainable Development. December 16, 2014. Retrieved from https://enb.iisd.org/download/pdf/enb12619e.pdf, pp.36-39.

[470] "Summary of the Paris Climate Change Conference: 29 November-13 December 2015". International Institute for Sustainable Development. December 15, 2015. Retrieved from https://enb.iisd.org/download/pdf/enb12663e.pdf, pp.5-10.

[471] "Summary of the Marrakech Climate Change Conference: 7-19 November 2016". International Institute for Sustainable Development. November 21, 2016. Retrieved from https://enb.iisd.org/download/pdf/enb12689e.pdf, pp.8-38.

[472] "Summary of the Fiji / Bonn Climate Change Conference: 6-17 November 2017". International Institute for Sustainable Development. November 21, 2017. Retrieved from https://enb.iisd.org/download/pdf/enb12714e.pdf, pp.3-29.

about handling equity in the global stocktake decisions. In addition, the LMDCs emphasized equality as a critical concept and urged for a balanced approach to all issues, culminating in a single legislative resolution and constructive participation by developed states on financing and technology transfer issues.[473]

During the Chile-Madrid Time for Action discussions at COP 25, India emphasized the necessity of pre-2020 implementation for developing countries' increased action. Besides, the BASIC urged developed states to fulfill their current financial obligations, scale up their financial support, and make their contributions more transparent. In the same conference, the LMDCs emphasized the importance of greater openness for developed nations about implementation and collaboration with all parties cooperatively, underlined the urgency of funding and adaptation, and pushed developed states to contribute to climate finance.[474]

At COP 26, the G-77/China called on developed states to increase their emissions reduction targets and support, urging considering developing nations' needs and objectives. In addition to the G-77/China, the LMDCs stated the absence of ambition in the Kyoto Protocol's second commitment period, attracted attention to the failure to meet the $100 million annual financing commitment, emphasized that requiring all countries to achieve net zero emissions by 2050 was unequal, and stated that unilateral carbon border adjustments were unfair. Finally, on behalf of the BASIC, India emphasized the CBDR concept and the specific circumstances of developing nations, particularly in the context of COVID-19. Moreover, for the BASIC, India noted that the coalition was committed to significant climate action despite internal constraints and urged developed states to do more.[475]

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[473] "Summary of the Katowice Climate Change Conference: 2-15 December 2018". International Institute for Sustainable Development. December 18, 2018. Retrieved from https://enb.iisd.org/download/pdf/enb12747e.pdf ,pp.3-30.

[474] "Summary of the Chile/Madrid Climate Change Conference: 2-15 December 2019". International Institute for Sustainable Development. December 18, 2019. Retrieved from https://enb.iisd.org/download/pdf/enb12775e.pdf ,pp.3-21.

[475] "Glasgow Climate Change Conference: 31 October -13 November 2021". International Institute for Sustainable Development. November 16, 2021. Retrieved from https://enb.iisd.org/sites/default/files/2021-11/enb12793e_1.pdf, pp.3-37.

In COP 27, during the Sharm El-Sheikh Implementation Plan meetings, India argued that the Glasgow Climate Pact should not be given an equal position as the UNFCCC and the Paris Agreement. Besides, the G-77/China, represented by Pakistan, praised the creation of a loss and damage fund by emphasizing that it is an investment in climate justice rather than a charitable act.[476] Lastly, in COP 28, India expressed that the meeting delivered hopeful signals to the global community and that the future course of action should be founded on fairness and climate justice. Moreover, Cuba, representing G-77/China, stressed the importance of addressing climate action within the framework of poverty alleviation and sustainable development. Finally, the LMDCs urged the SCF to modify its operational rules regarding climate finance.[477]

5.10. Conclusion

This chapter elaborated on India's climate policy framework, the country's position, and the coalitions that India belonged to in the UNFCCC meetings. The climate policy framework was analyzed according to documents submitted to the UNFCCC. Specifically, India's NDCs, the BUR, the NAPCC, and the Long-Term Low Carbon Development Strategy were considered. In these documents, India presented its climate change initiatives, ambitions, and policies.

The common points of the BUR, the NAPCC, and the Long-Term Low Carbon Development Strategy are that the documents underlined the insufficiency of climate funding available to developing states to cover the needs for adaptation or mitigation as outlined in the NDCs, the tendency of the available financial resources to weighted towards mitigation initiatives and the necessity of enhanced cooperation for the promotion of technology transfer. Hence, India has attracted attention to the necessity of international collaboration and financial and technological support for developing states to combat climate change. The country has also highlighted the

[476] "Sharm El Sheikh Climate Change Conference: 6 -20 November 2022". International Institute for Sustainable Development. November 23, 2022. Retrieved from https://enb.iisd.org/sites/default/files/2022-12/enb12818e_0.pdf ,pp.4-29.

[477] "Summary of the 2023 Dubai Climate Change Conference: 30 November – 13 December 2023". International Institute for Sustainable Development. December 18, 2023. Retrieved from https://enb-test.iisd.org/sites/default/files/2023-12/enb12842e_0.pdf, pp. 16-27.

new, extra, and climate-specific financial resources and assistance for addressing climate-related challenges.

From the perspective of neoliberal institutionalism, India's participation in global climate governance illustrates the capability of international institutions to promote interstate dialogue, despite varying national interests. In this realm, India has found ways of achieving absolute gains while preserving its national interests through the UNFCCC's institutional structure, as demonstrated by its strategic involvement in multiple coalitions and progressive increase of climate commitments.

Moreover, from COP 1 to COP 28, India's discussions of climate issues were investigated. In the end, the climate issues that India and its coalitions surfaced in the UNFCCC meetings can be summarized as the following: They underlined the importance of financing, technology transfer, and capacity building, pointed out the absence of equality between Annex I parties and other parties, stressed the CBDR, supported legally enforceable implications for non-compliance, called for support for both mitigation and adaptation initiatives, opposed the limitation attempts of development ambitions of developing states, urged developed states to achieve their climate pledges, emphasized the need for deeper obligations solely on Annex I states, attracted attention to the necessity for sufficient for support initiatives, voiced concern over increasing Annex I GHG emissions and underlined climate justice.

CHAPTER 6

SOUTH AFRICA

6.1. Introduction

This chapter focuses on South Africa's climate policy framework, utilizing official documents submitted to the UNFCCC and analyzing South Africa's evolving position across multiple UNFCCC meetings, from COP 1 to COP 28. As one of Africa's significant developing economies, South Africa's climate policies and approaches hold significant importance in global efforts to combat and adapt to climate change. Studying South Africa as a case study provides valuable insights into the complexities of addressing emissions in a developing country in the African continent. Additionally, South Africa's representation of developing nations in global climate governance underscores the dynamics between developed and developing countries.

The analysis will examine South Africa's NDCs, the BUR, the National Climate Change Adaptation Strategy (NCCAS), and South Africa's Low Emission Development Strategy (SA-LEDS). These official documents will be scrutinized to understand South Africa's climate goals, policies, and strategies. Furthermore, the chapter will present South Africa's arguments, positions, and priorities in the UNFCCC meetings. South Africa has engaged in joint negotiations with coalitions like the G-77/China, the BASIC, and the African Group. Since the positions of the G-77/China and the BASIC in the UNFCCC meetings were presented in Chapter 5, only the positions and arguments of the African Group will be considered in this chapter to offer a comprehensive overview of climate change negotiations.

Using a neoliberal institutionalist framework, this chapter analyzes how South Africa's involvement with global climate governance has influenced its approach to

formulating policies to address climate change. Neoliberal institutionalism proposes that international institutions enhance interstate dialogue by offering structured frameworks for negotiation, lowering uncertainty, and establishing mechanisms for the exchange of knowledge and collective action. Hence, this theoretical framework is essential for analyzing South Africa's development within the context of global climate governance.

By thoroughly examining South Africa's official submissions to the UNFCCC and closely analyzing its stance throughout the UNFCCC meetings, this chapter aims to gain a comprehensive understanding of South Africa's policy framework, priorities, and positions in climate discussions while also taking into account its coalition affiliations. Through this exploration of South Africa's climate policies and approaches, the chapter sheds light on the country's approach to addressing climate change and its contributions to international climate negotiations.

6.2. Climate Policy Framework

The first NDC for South Africa, submitted to the UNFCC in 2016, has two critical parts for climate targets. These are the mitigation and adaptation parts. The six targets of the adaptation component are supported by important aspects of adaptation planning, the costing of the necessary investment in adaptation, equity, and implementation approaches. South Africa's mitigation component reveals the GHG emissions trajectory. This is consistent with South Africa's commitment to advance its contributions to the global effort to mitigate climate change in accordance with the principle of CBDR.[478]

Under the adaptation component, the country defined six goals. Firstly, South Africa committed to preparing a national adaptation plan and initiating the operationalization process to put the National Climate Change Response Policy (NCCRP) into practice for the 2020-2025 and 2025-2030 periods. The second target

[478] "South Africa's Intended Nationally Determined Contribution (INDC)". United Nations Framework Convention on Climate Change. November 1, 2016. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa.pdf ,pp.3-8.

covers incorporating climate issues into national, subnational, and sectoral policy frameworks for national, subnational, and sectoral policy for the years 2020 to 2030. The third objective includes creating the institutional capacity to plan and execute climate change actions from 2020 to 2030.[479]

The fourth target covers creating an early warning, vulnerability, and adaptation surveillance system for major climate-sensitive sectors and geographic areas from 2020 to 2030. The fifth target is to develop and evaluate the vulnerability and adaptation requirements framework by 2020 to facilitate a continual presentation of adaptation requirements. The last goal includes promoting prior adaptation initiatives for awareness-building, education, and global recognition. Under the mitigation component, the country estimated that South Africa's emissions in 2025 and 2030 would be within 398 and 614 MtCO2 equivalent.[480]

In the updated NDC of South Africa, submitted to the UNFCCC in 2021, the country presented its adaptation and mitigation targets for 2021-2030. Adaptation objectives include enhancing governmental and legal structures for climate change adaption, identifying the effects of 1.5°C and 2°C global warming on South Africa, as well as the fundamental global emission patterns through geospatial modeling of the physical climate dangers and adaptation requirements in the context of bolstering the essential economic sectors, executing the NCCAS adaptation initiatives from 2021 to 2030, utilizing from multilateral financial channels to have access to funds for adaptation implementation and evaluation and recognition of the nation's resilience and adaptation initiatives. In the recent NDC, the country updated its mitigation target to 398-510 MtCO2 equivalent for 2021-2025 and 350-420 MtCO2 equivalent for 2026-2030.[481] Hence, it is evident that emissions target levels were lowered in the updated NDC compared to the first NDC.

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[479] "South Africa's Intended Nationally Determined Contribution (INDC)", pp.3-5.

[480] "South Africa's Intended Nationally Determined Contribution (INDC)", pp.5-6.

[481] "South Africa First Nationally Determined Contribution Under the Paris Agreement-Updated September 2021". United Nations Framework Convention on Climate Change. September 27, 2021. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa%20updated%20first%20NDC%20September%202021.pdf ,pp.8-15.

In the fifth BUR submitted to the UNFCCC, national circumstances, inventories, and actions of South Africa were presented. The report is the last BUR submitted by the country in 2023. According to the report, South Africa's GHG emissions increased from 464 MtCO2 equivalent in 2000 to 558 MtCO2 equivalent in 2019 without Forestry and Other Land Use (FOLU). When FOLU was included, the emissions were 442 MtCO2 equivalent in 2020. In 2020, the energy sector had the greatest share of South Africa's total emissions, followed by the agriculture, forestry, and other land use (AFOLU), industrial processes and product use (IPPU), and waste sectors.[482]

6.3. National Climate Change Adaptation Strategy (NCCAS)

The NCCAS specifies key areas for realizing the country's common climate change adaptation and resilience objectives. The NCCAS meets South Africa's international commitments, as stated in the Paris Agreement under the UNFCCC. It operates as the country's National Adaptation Plan. The NCCAS serves as the foundation for fulfilling South Africa's responsibilities under the adaptation commitments contained in the NDCs. The NCCAS is separated into groups of strategic objectives, strategic interventions, and strategic outcomes with accompanying initiatives.[483]

The document sets 4 objectives, 9 strategies, and 12 strategic outcomes for combatting climate change. The first objective is to enhance climate resilience and adaptation abilities to deal with climate change vulnerabilities and risks. The second target is to support the incorporation of adaptation to climate change into development goals, policies, development, and execution. The third objective is to increase knowledge regarding the effects of climate change and the capacity to

[482] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. December 2, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/Fifth%20Biennial%20Update%20Report%20%20of%20South%20Africa%20Submission%20to%20UNFCCC.pdf, pp.3-7.

[483] "National Climate Change Adaptation Strategy the Republic of South Africa". The Department of Environment, Forestry and Fisheries. November 13, 2019. Retrieved from https://www.dffe.gov.za/sites/default/files/docs/nationalclimatechange_adaptationstrategy_ue10november2019.pdf ,pp.9-10.

respond to these effects. The last target is to ensure that the processes and resources needed for executing climate change solutions are in effect.[484]

9 strategies support these 4 objectives. The first strategy is developing adaptive capability while reducing the vulnerability of the physical, economic, environmental, and ecological infrastructures. The second strategy is creating a coordinated system of climate-related services that offers goods and services to major industries and regions vulnerable to climate change. The third one is developing an analytical structure for vulnerability and resilience that incorporates these concepts' biophysical and socioeconomic elements. The fourth strategy is promoting the integration of adaptation strategies within sectoral planning and functioning. The fifth one is encouraging the use of research and the creation, use, and transfer of technologies to assist in planning and execution. The sixth strategy is developing the skills and knowledge required to respond to climate change. The seventh strategy is creating efficient governmental and legal frameworks to incorporate climate change into development planning. The eighth strategy is facilitating significant funding flows from multiple sources for climate change adaptation. The last strategy is to set up and carry out an evaluation and monitoring framework to keep track of the adaptation measures being implemented.[485]

These 9 strategies also have 12 strategic outcomes. The first is enhancing endurance and adaptation capacities in human, economic, environmental, physical, and ecological infrastructures. The second is developing and implementing climate goods and services for critical climate-vulnerable sectors and regions. The third strategic outcome is establishing and implementing a framework for assessing climate risk and vulnerability in all major adaptation industries. The fourth one is about appropriate adaptation planning that incorporates at least all South African industries involved in the NCCAS. The fifth is realizing the complete inclusion of climate change issues in sectoral activity planning.[486]

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[484] "National Climate Change Adaptation Strategy the Republic of South Africa", p.21.

[485] "National Climate Change Adaptation Strategy the Republic of South Africa", p.21.

[486] "National Climate Change Adaptation Strategy the Republic of South Africa", pp.21-22.

The sixth is increasing research productivity and adopting technologies to assist planning and execution. The seventh strategic outcome is raising awareness and increasing capacity for responding to climate change. The eighth one is about once passed by parliament; the Climate Change Act defines and legislates adaptation governance. The ninth one is improving institutional frameworks for dealing with climate change. The tenth strategic outcome is promoting cooperation and accountability between the public, private, and civil society. The eleventh one is developing sufficient financial resources from domestic and foreign sources for the country's primary adaptation necessities. The last strategic outcome is creating and implementing a nationwide monitoring and evaluation mechanism.[487]

6.4. Mitigation Actions

In the fifth BUR of South Africa, the country presented mitigation policies and measures for the energy, AFOLU, IPPU, and waste sectors. These initiatives are adopted by the government and executed across the economy, covering a wide range of industries, to assist South Africa in meeting its emission reduction targets. 12 actions for energy, 5 actions for AFOLU, 1 for IPPU, and 1 for waste sectors are defined.[488]

Regarding the energy sector, the first action is the “12L Tax Incentive Programme”. The action aims to enhance the adoption of low-carbon technology and activities to cut GHG emissions in the commercial and industrial sectors and to promote the creation of jobs in the green economy. The second action is the “Energy Efficiency Standards and Appliance Labelling project”. The objective of the action is to ensure that consumers are aware of the corresponding energy efficiency of a product before making a purchase. The third action is the “Eskom Integrated Demand Management (IDM) Programme”. The action aims to present instructions for effectively using energy resources and any necessary incentives or subsidies. The fourth action is the “Municipal Energy Efficiency and Demand-side Management Programme”. The

[487] “National Climate Change Adaptation Strategy the Republic of South Africa”, p.22.

[488] “South Africa’s 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change”, pp.121-144.

action aims to ensure the effective use of energy sources and associated incentives and subsidies.[489]

The fifth action is "The National Cleaner Production Centre South Africa (NCPC) Programme". The action aims to support energy efficiency measures, notably in the industrial and commercial sectors, to reduce GHG emissions from the energy sector and stimulate job creation in the green economy. The sixth action is the "Private Sector Energy Efficiency (PSEE) Programme". The action aims to support energy efficiency initiatives, notably in the industrial and commercial sectors, to reduce GHG emissions associated with the energy sector and promote greater employment in the green economy. The seventh action is named "Private Sector Embedded Solar Generation". In this action, the leading technology for small-scale embedded generating is anticipated to be solar photovoltaic (PV) power due to its rapid deployment. The eighth action is the "Renewable Energy Independent Power Producer Procurement (REIPPP) Programme". Under this action, according to the Integrated Resource Plan, 17.8 GW of renewable energy will be produced by 2030 and put into service as part of the Program.[490]

The ninth action is named the "Natural gas fuel switch Programme". The action aims to provide consumers not already connected to the existing gas infrastructure with affordable and environmentally friendly energy by distributing natural gas to compressed natural gas (CNG) refueling stations, gas distribution networks, businesses, and power production systems. Additionally, industrial users and vehicle owners who desire to switch to natural gas are offered assistance. The tenth action is called the "Bus Rapid Transport (BRT) System". This action supports effectively utilizing energy resources and reducing adverse environmental effects associated with land transportation. The eleventh action is named the "Transnet Road-to-Rail Programme". The action aims to encourage the responsible use of energy resources, and the reduction of harmful environmental effects associated with land

[489] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.121-125.

[490] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.126-129.

transportation. The last action is called “Electric Vehicles”. This action is about transitioning from internal combustion engines to electric vehicles.[491]

Alongside the energy sector, five actions are specified in the AFOLU sector. The first action is called “Afforestation”. The action aims to promote resource protection, raise awareness, and stimulate sustainable land use activities. The second action is called the “Conservation Agriculture (CA)”. The action aims to promote sustainability in the agricultural industry and reduce agriculture's carbon impact. The third action is named “Forest and woodland restoration and rehabilitation”. The action aims to enhance sustainability, environmental services, and biodiversity by restoring and rehabilitating forests and woodlands. The fourth action is the “Grassland rehabilitation (VeldCare - LandCare Programme)”. The action aims to decrease soil erosion while restoring and rehabilitating pasture and grasslands. The last action is named the “Thicket restoration”. The action aims to strengthen and rehabilitate thickets to prevent soil deterioration and increase carbon storage.[492]

As stated before, one action has been taken for the IPPU sector. The first action is named the “Nitrous oxide reduction projects”. The action aims to decrease nitrous oxide emissions while manufacturing nitric acid. Apart from the IPPU sector, one action is set in the waste sector. The action in that sector is named the “National Waste Management Strategy”. The action aims to promote resource management principles, raise awareness, and facilitate sustainable land use techniques.[493]

6.5. Finance

South Africa's climate funding sources can be divided into four categories: bilateral finance, international finance, domestic public finance, and private sector finance. Support is categorized as bilateral if it comes from a single donor state and as

[491] “South Africa’s 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change”, pp.130-134.

[492] “South Africa’s 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change”, pp.138-142.

[493] “South Africa’s 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change”, pp.136-144.

multilateral if it is provided by multiple countries or entities and is routed by a single donor organization. There are several ways that bilateral aid for addressing climate change is provided, including through private donors, donor organizations, and bilateral financial institutions.

During the 2020 reporting period, South Africa received more than $703 million from bilateral sources and $469 million from multilateral sources to support and benefit climate change efforts in the country. Bilateral assistance was provided through grants, technical assistance, and loans, while the multilateral assistance primarily consisted of grants. In 2020, Switzerland and Germany provided funds to South Africa. Germany provided the highest amount of climate finance, primarily directed towards the energy sector. The GCF and the International Union for Conservation of Nature (IUCN) provided 39% and 36% of the overall multilateral funding, respectively, with the GEF contributing 22%. The remaining funds were directed to South Africa from the World Bank, UNEP, and Energy Environment Partnership Africa (EEPA).[494]

Regarding domestic finance, the South African government has allocated around $164 million, in addition to bilateral and multilateral assistance. The domestic fund was allocated to climate-related initiatives in energy, AFOLU, climate, resilience, and waste. Funds were directed to support mitigation programs and activities related to the energy sector, sectors related to AFOLU, biodiversity and conservation, human settlements, water, and irrigation. In addition, grants dedicated to climate change and resilience covered flood management, disaster relief, and environmental protection.[495]

For the climate finance needs of the country, it is estimated that achieving the goal of decarbonizing South Africa's economy to meet the NDC target by 2030 in an equitable way would require around $98.7 billion. This financing allocated for South

[494] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.176-183.

[495] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.190-191.

Africa's Just Transition Investment Plan is divided into categories such as infrastructure, planning and execution, capacity, improving skills, diversifying the economy, innovation, social investments, and inclusion. In addition, according to the report, for the period 2021-2030, $13 million is needed for policy implementation, $8 million is required for the development of tools, strategies, and operations, $3-4 million is needed for the execution of the NCCAS and $16-267 billion is required for the adaptation needs of the country.[496]

6.6. Technology Transfer

South Africa's first NDC outlined a range of technologies that could be utilized to minimize the country's emissions further. The technologies encompassed in this list are energy-efficient lighting, variable speed drives and efficient engines, energy-saving appliances, solar-powered water heaters, electric and hybrid electric cars, PV systems, wind power, CCS, and advanced biofuel. Given that the just transition in South Africa would necessitate international collaboration and assistance, the revision of the NDC presented an update on the assistance that the country would require in addition to these technologies.

The Just Transition Framework of South Africa outlines the innovation and related technologies in the South African economy. The strategy prioritizes the development of environmentally friendly industries and technological advancements in South Africa. It encompasses various important initiatives. The focus is on fostering the growth of competitive sectors that manufacture inputs and provide support services for environmentally friendly technologies, including renewable energy, batteries, green hydrogen, and cement, with zero net emissions. The approach aims to cater to both domestic and international markets. In addition, the plan aims to create innovative technologies that are resilient to climate change, such as sustainable agriculture and artificial wetlands. It also emphasizes the circular economy as a major source of employment.[497]

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[496] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.195-197.

[497] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", p.200.

Moreover, the framework emphasizes the importance of creating regulatory frameworks and technical standards that promote the use of new technologies. It is also crucial to ensure that the national innovation system is climate-conscious, supporting innovations that contribute to achieving net-zero emissions and climate resilience. Additionally, the plan emphasizes the significance of raising consciousness about emerging technologies, dealing with opposition from traditional sectors that aim to safeguard outdated manufacturing processes, and promoting technological progress that generates jobs and expands ownership. Apart from the framework, the report states that using hydrogen in different industries maintains the capacity to decrease emissions and generate employment opportunities throughout its diverse supply chains. This can be leveraged to facilitate a fair and equitable transition in South Africa.[498]

6.7. Capacity Building

A thorough examination of South Africa's BUR 4 report, submitted on 28 September 2021, identified the necessity for capacity building to support the formulation of future BURs and engagement in international consultation and analysis (ICA). The technical team of experts (TTE), working with South Africa, identified these requirements and listed them as follows in BUR 5: improving the technical capability for gathering GHG inventory, increasing the communication capacity of institutions, strengthening technical and institutional capabilities, increasing technical knowledge about mitigation measures, increasing national capacity to develop methods, processes, and approaches, and improving the technical capabilities to gather the data needed for reporting.[499]

The capacity building necessities of South Africa for GHG inventory include improving technical expertise in data collection and categorization of Solid Waste Disposal Sites (SWDS), gathering time series data, developing methodologies, and

[498] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.200-201.

[499] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.197-198.

improving the Quality Control (QC)/ Quality Assurance (QA) procedures to ensure the provided data and time series coherence. In addition, the capacity building necessities for mitigation actions in South Africa include enhancing institutional arrangements, developing systematic procedures and methodology, and institutionalizing and effectively utilizing an ex-post assessment model for reporting and analyzing mitigation initiatives.[500]

6.8. South Africa's Low Emission Development Strategy (SA-LEDS)

South Africa has outlined its strategy for achieving low-carbon development in its SA-LEDS, which was submitted to the UNFCCC in 2020. The SA-LEDS is based on efforts to address climate change in the country for years. It builds upon existing plans, policies, and research, aiming to optimize resources and gain support from important stakeholders. However, these plans were developed before adopting the Paris Agreement and did not fully align with its long-term global goals. Additionally, most of these plans have a shorter timeframe than what is needed to achieve the mid-century objectives.[501]

South Africa intends to emphasize some strategic components that, taken together, will support the transition to sustainable development while keeping in line with the Paris Agreement's objectives. These are broadening the perspective of development, strengthening institutional capacity and transitional arrangements, building a favorable financial climate by linking fiscal policy with sustainable development, granting widespread accessibility to funds, encouraging innovation, research, and skill development for potential value capture, achieving a fair transition with employment for everyone, fostering sustainable practices with education and culture, developing metrics and information.[502]

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[500] "South Africa's 5th Biennial Update Report (BUR-5) to the United Nations Framework Convention on Climate Change", pp.198-199.

[501] "South Africa's Low Emission Development Strategy 2050". United Nations Framework Convention on Climate Change. February 2020. Retrieved from https://unfccc.int/sites/default/files/resource/South%20Africa%27s%20Low%20Emission%20Development%20Strategy.pdf ,p.6.

[502] "South Africa's Low Emission Development Strategy 2050",pp.42-43.

Regarding broadening the perspective of development, it is stated in the document that a national picture built from sectoral paths will be necessary to guarantee that balance between the sectors can direct national negotiations in order for climate ambition to advance and meet the long-term global goals. Stakeholders from each sector are essential in shaping the national dialogue and strengthening the nation's position in relation to the international community, whether during the UNFCCC negotiations or in interactions with donors and investors. It is also asserted that stakeholders from all industries will also provide perspectives on opportunities, difficulties, alternatives, and necessities. Hence, sustainable development needs to be represented in all aspects of national life, including municipal politics, business actions, and mass media interactions.[503]

Concerning strengthening institutional capacity and transitional arrangements, it is stated that planning and formulation of policies could benefit from improved institutional capacities and arrangements. This means stronger capacities and deeper connections to the academic community, civil society, and the business sector are essential for the institutional capabilities needed for planning initiatives and their implementation. As the sectoral paths are fully defined, the actions necessary for their execution should be integrated into the existing institutional framework to determine where the coordinating mechanisms currently in place are appropriate and where it would be appropriate to consider changes. Besides the institutional structures, training, and capacity development necessary to support the transition at the national level, it is underlined that infrastructure and skills have to be established at the sub-national level. This is because many of the sub-national government entities are ineffective and unable to manage financing for or assist in the execution of the steps necessary to promote the low-carbon transition.[504]

Regarding building a favorable financial climate by linking fiscal policy with sustainable development, it is stated in the SA-LEDS that the fiscal system of a country determines its capacity to implement the structural changes necessary by the shared goal of fulfilling the Paris Agreement goals and eradicating poverty due to the

[503] "South Africa's Low Emission Development Strategy 2050", pp.43-44.

[504] "South Africa's Low Emission Development Strategy 2050", pp.44-46.

necessity for large-scale investment and the change in purchasing preferences of both companies and consumers over the coming years. In order to prevent the financial viability of the state from becoming a barrier to the necessary adjustments, the document states that the total tax revenue has to be separated from quantities of fossil fuel sales and exports. When constructing the pathway, it is essential to consider negative externalities for a larger portion of the intake and support this decision with a thorough analysis considering changing market conditions. To maintain Paris-compatible paths, the document underlined that capital investment in technology and implementation strategies should be promoted, and incentives must be consistent with the long-term development trajectory.[505]

Additionally, it is stated that in order to assist in the shift to cleaner development, fossil fuel subsidies and incentives that encourage the inefficient use of resources like water, food, fertilizers, or public goods should be investigated. It is emphasized that support for renewable energy sources has to be taken into account in order to accelerate their market acceptability without creating too many distortions that can restrict future competitiveness or stall the change. Also, the document acknowledges that significant effort is necessary to foster and welcome new business models. Different approaches to meeting demand—from collective ownership to providing services or experiences rather than products or commodities—will create enormous development prospects inside a community, raising its per-capita income as poverty decreases. Such potential will be enhanced for South Africa by an outward-looking fiscal policy that is aware of the alternatives and adaptable to the development of new markets, ultimately providing prospects for export to Africa and other parts of the world. It is underlined that additional projections for investment and development will arise if the fiscal regime encourages new businesses to onshore major segments of the value chain of industries that will facilitate the sustainable shift while contributing to national wealth generation.[506]

In conclusion, it is stated that fiscal strategy has to review the balance of taxes gradually, plan for decreasing fossil fuel sales, and commit to minimizing negative

[505] "South Africa's Low Emission Development Strategy 2050", p.46.

[506] "South Africa's Low Emission Development Strategy 2050", pp.46-47.

externalities. At the same time, incentives need to center on both the effects of emissions on investments, favoring the path to net zero and encouraging investments that benefit from this transition's short- and medium-term opportunities. Therefore, the document emphasizes that fiscal policy must balance the viability of the state and the private sector in addition to the demands of the transition and economic and social progress.[507]

Regarding granting widespread accessibility to funds, the document states that the effectiveness of South Africa's attempts to combat climate change depends on having access to sufficient funds to fulfill the investment demands across various initiatives. The added cost of mitigation action is expected to be more than $1.350 billion between 2020 and 2050, or around $44 billion per year. South Africa would need to spend more than $30 billion annually to adapt to climate change's impacts for 2021–2030. Also, between 2015 and 2030, it is predicted that an additional $13.5 trillion would be needed to keep global warming below two degrees.[508]

South Africa created a thorough climate finance strategy after experiencing difficulties accessing climate financing. The strategy addresses all elements of climate financing and adopts an all-encompassing approach to its actions. The strategy ensures that local circumstances and aspirations are considered in climate finance frameworks. In addition, it discovers funding options parallel to the technological and economic growth channels needed to transition to a low-emissions economy to contribute significantly to creating strategies.[509]

Regarding encouraging innovation, research, and skill development for potential value capture, the SA-LEDS states that global compliance with the Paris Agreement involves a significant, continuous investment over decades, the transformations necessary to enable low-carbon growth to create substantial opportunities for innovation, research, and skills agendas. The government's objectives, particularly

[507] "South Africa's Low Emission Development Strategy 2050", p.47.

[508] "South Africa's Low Emission Development Strategy 2050", p.47.

[509] "South Africa's Low Emission Development Strategy 2050", p.50.

the Department of Science and Innovation (DSI), serve as major guidance for the national research program. Several ongoing research projects are already laying the groundwork for the low-carbon transitions, such as "The Hydrogen South Africa (HySA) Research Programme", "The Renewable Energy Hub and Spokes Initiative", "The Lithium-Ion Battery Programme", "The South African Centre for Capture and Storage (SACCS)" and "The Waste Research, Development, and Innovation Roadmap".[510]

Regarding achieving a fair transition with employment for everyone, it is stated in the document that the shift to a low-carbon economy will result in savings, investment, and growth, creating a wide range of opportunities in new fields of action. However, there will also be a decline in activity in areas associated with GHG emissions, resulting in decreased operations, lower company profits, and a loss of employment in particular industries. It is stated that the South African government is devoted to ensuring that the transition is fair and that its unfavorable effects are not unfairly distributed among the poorest and working-class populations, who are already suffering the most from the physical effects of climate change. The document underlines that all policy initiatives aimed at the low-carbon transition are in line with the achievement of the nation's developmental goals, which include lowering inequality and poverty, generating sustainable employment, and expanding access to essential services for all South Africans. Particular policies and initiatives are also necessary to help vulnerable groups in certain areas and scales at various times.[511]

Regarding fostering sustainable practices with education and culture, the SA-LEDS indicates that the development of information, skills, beliefs, and behaviors that improve one's awareness of and awareness of how sustainability translates into a better life for oneself, and one's community can be a vital component in supporting sustainable development. Campaigns to raise cultural and public awareness are only a few specific initiatives that alter the educational curriculum. The educational and cultural programs must also incorporate the ideas of economic reform, routes, and

[510] "South Africa's Low Emission Development Strategy 2050", pp.54-55.

[511] "South Africa's Low Emission Development Strategy 2050", pp.56-57.

equitable transition. Therefore, it is stated that South Africa needs to immediately start working on creating a thorough, integrated plan to take advantage of this opportunity since it regards obtaining assistance for education for sustainable development as a critical component of its overall strategy to enhance education.[512]

Regarding developing metrics and information, the document states that ensuring the availability of information is critical to evaluating the low-carbon transition and assuring that it is accomplished reasonably and equitably. Regulations requiring compulsory reporting have previously been implemented in South Africa to encourage reporting by emitters that fall under specific emission categories. It is emphasized that the correct information needs to be gathered in the future to assist decision-making and planning, and data collection must be done logically, consistently, and transparently.[513]

The document states that South Africa's long-term transition roadmap will be carried out in three phases. The first phase, Starting Right, is planned to be completed in 2021. The second phase, Turning the Corner, is planned to start simultaneously with the Starting Right phase and last until 2025. The last phase, Massive Rollout, will be effective between 2025 and 2050.[514] The starting Right phase concerns initiatives related to the present administration or possibly even the first few years of the administration that follow. The most crucial feature of the Starting Right stage is to guarantee that a genuine transition is initiated. Rapid realization needs to begin in all sectors where the path to attaining the Paris Goals is clearly evident. On the other hand, actions taken have to allow future action at scale as much as they must generate prompt decreases in emissions. Hence, one of the main goals of the Starting Right stage is to avoid actions that would result in emissions lock-in.[515]

The second phase, Turning the Corner, requires five to seven years. Where applicable, this phase will start to be implemented simultaneously with the Starting

[512] "South Africa's Low Emission Development Strategy 2050", p.57.

[513] "South Africa's Low Emission Development Strategy 2050", pp.57-58.

[514] "South Africa's Low Emission Development Strategy 2050", p.60.

[515] "South Africa's Low Emission Development Strategy 2050", p.60.

Right stage and continue until 2025. This period is crucial because new choices and standards for investment are widely implemented during it, changing the day-to-day operations of several economic sectors at once. If not appropriately managed, resistance to change can be difficult. Thus, it is emphasized that it must be predicted and dealt with through societal acceptance and reasonable transitional measures. At this point, several policies must come together to make the new technology opportunities economically advantageous for enterprises and consumers.[516]

The last stage, Massive Rollout, will begin when low-emission, climate-resilient solutions start to become the accepted norm. Large amounts of funds will be directed toward transformational change due to the ongoing use of transformative measures. Sectors that reach significant milestones should not be permitted to get passive but rather assist the greater shift by promoting areas of natural synergy. Persistence in implementing all aspects of transformation will be necessary to avoid disparities or inequalities compromising the change.[517]

It is underlined in the document that coordinated policy action is necessary for the successful execution of these three phases. It is vital to offer policies as components of larger policy packages or combinations of actions that may include planning, regulatory, financial, and other tools to collaboratively push toward the intended goal while supplying capabilities and removing transitional obstacles. Ordering and complementarity are both essential for creating powerful policy packages.

Policy packages may comprise proposed elements that concentrate on institutional/regulatory planning, project implementation, finance, acceptability, skills, and just transition, as well as preventing lock-in. Hence, policy packages should be developed in an ordered fashion over a period of time to ensure the complete execution of the low-carbon transition.[518]

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[516] "South Africa's Low Emission Development Strategy 2050", pp.60-61.

[517] "South Africa's Low Emission Development Strategy 2050", p.61.

[518] "South Africa's Low Emission Development Strategy 2050", p.62.

6.9. South Africa in the UNFCCC Climate Change Conferences

After outlining South Africa's climate policy framework as presented in its submissions to the UNFCCC, examining how the country positioned itself and engaged in negotiations regarding climate matters during the UNFCCC meetings becomes essential. This examination aims to illustrate South Africa's approach to the topics discussed in each COP, highlighting the issues it supported and contested during these deliberations. Additionally, South Africa has actively negotiated with several coalitions in the COP conferences, such as the G-77/China, the BASIC, and the African Group. As a developing nation, South Africa acknowledges the significance of collective action and collaboration among countries facing similar developmental challenges and sharing similar aspirations.

South Africa's involvement in UNFCCC meetings demonstrates key aspects of neoliberal institutionalism, particularly regarding the potential of international institutions to assist states in achieving complex climate goals through established frameworks. This theory demonstrates how South Africa has utilized institutional mechanisms to improve its negotiating stance, despite existing power imbalances in the international system. Therefore, South Africa has utilized the UNFCCC's institutional framework to protect its national interests, illustrating the role of institutions in enabling states to address collective action challenges and achieve mutual benefits.

The G-77/China coalition is an inclusive alliance of developing nations to amplify these countries' collective influence in addressing climate change concerns. South Africa's participation in the G-77/China group offers an opportunity to interact with diverse countries and strive towards shared objectives. Furthermore, South Africa is also part of the BASIC group, which consists of significant emerging economies that are pivotal in shaping climate negotiations. By being a BASIC group member, South Africa collaborates with other influential nations to ensure that the interests of developing countries are adequately represented and taken into account during discussions on climate change.

South Africa's membership in the African Group is significant for regional representation and influence. As a prominent economy and influential nation in Africa, South Africa brings its expertise, experience, and perspectives to the discussions and negotiations on climate change. By being part of the African Group, South Africa actively advocates for the interests and priorities of African countries, ensuring that the unique challenges and vulnerabilities they face in relation to climate change are effectively addressed.

South Africa's involvement strengthens the collective voice of African nations within the UNFCCC, enabling them to have a greater impact on shaping global climate policies and promoting sustainable development in the region. Additionally, South Africa's membership facilitates knowledge-sharing, collaboration, and the exchange of best practices among African countries, fostering a stronger collective response to climate change on the continent.

In addition to engaging in independent negotiations, South Africa's active participation in groups such as the G-77/China, the BASIC, and the African Group underscores its dedication to collaborating with developing countries in tackling the challenges presented by climate change and safeguarding their developmental aspirations. By joining these coalitions, South Africa emphasizes the importance of collective action and solidarity among developing nations to address climate-related issues effectively. This commitment reflects South Africa's recognition that a unified approach is crucial for achieving sustainable and inclusive development while ensuring that developing countries' unique needs and priorities are considered in global climate initiatives.

Through these collaborative efforts, South Africa aims to leverage these groups' collective strength and expertise to pursue equitable and effective solutions to climate change, thereby contributing to a more sustainable and resilient future. In Chapter 5, the positions and arguments of the G-77/China and the BASIC were presented since India was also a member of these coalitions. In order not to make a repetition, Chapter 6 will not give a place to perspectives of the G-77/China and the BASIC. Instead, the positions and arguments of the African Group will be presented in this chapter.

In COP 1, most African nations emphasized the association between climate change and other issues, such as desertification and extreme poverty, and urged financial support and technology transfer.[519] This indicates a recognition that tackling climate change requires a holistic and integrated approach that considers broader socio-economic and environmental dimensions. At COP 2, officials of African states emphasized climate change's adverse social and economic effects, their distinctive vulnerability, and the lack of financial and technical assistance for mitigation and adaptation.[520]

In COP 3, South Africa asserted that access to technology and the transfer of scientific know-how are critical in addressing the energy requirements when advancing toward sustainable development.[521] In COP 4, South Africa supports preparing a clear work plan, forming an intersessional working group, and setting up a timetable to guarantee that the Kyoto objectives are fulfilled.[522] In COP 5, the African Group and others also have pointed out that capacity building is essential to enable meaningful involvement of developing nations.[523] In COP 6, the African Group raised concerns over the idea of submitting national communication as a requirement for CDM participation.[524]

In COP 7, in speaking as a representative of the Africa Group, Burkina Faso emphasized the strong aspirations possessed by the world community for the outcome of COP 7. Moreover, Cameroon, addressing on behalf of the African Group, highlighted some of the successes by expressing satisfaction in the outcomes,

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[519] "Summary of the First Conference of the Parties for the Framework Convention on Climate Change: 28 March-7 April 1995", p.8.

[520] "Summary of the Second Conference of the Parties for the Framework Convention on Climate Change: 8-19 July 1996", p.10.

[521] "Summary of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997", p.4.

[522] "Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change: 2-13 November 1998", p.12.

[523] "Summary of the Fifth Conference of the Parties to the Framework Convention on Climate Change: 25 October- 5 November 1999", p.13.

[524] "Summary of the Sixth Conference of the Parties to the Framework Convention on Climate Change: 13-25 November 2000", p.12.

arguing that the Marrakesh Accords would encourage the Protocol's swift implementation, and expressing optimism for the LDCs' access to funding and the benefits of the CDM projects.[525] At COP 8, Zimbabwe made its opening remark on behalf of the African Group and urged more funding for adaption initiatives.[526] In COP 9, South Africa urged clear leadership from Annex I parties throughout the negotiations on the evaluation of the fulfillment of pledges and other UNFCCC requirements. Moreover, in its opening statement, Zimbabwe, speaking on behalf of the African Group, asserted that Annex I parties had failed to take the lead in decreasing GHG emissions due to an absence of political determination.[527]

At COP 10, in the discussions of the SCCF, the AOSIS, the Africa Group, the LDCs, and others stated concern about the application of COP instructions to the GEF, emphasizing that the most vulnerable countries encounter challenges accessing the GEF funds because of the burden of co-financing necessities, the presence of additional indicators and requirements that the COP did not adopt, and the limited focus of adaptation projects acceptable under the GEF.[528]

At COP 11, South Africa emphasized that capacity building is a critical and multidimensional matter. Also, on behalf of the African Group, Kenya made a point of a lack of commitment to capacity building, and the African Group criticized the unequal geographical allocation of projects and urged capacity building in Africa.[529] In COP 12, during the high-level discussions, numerous parties asked for a larger emphasis on adaptation, while the African Group and Saudi Arabia raised concerns

[525] "Summary of the Seventh Conference of the Parties to the UN Framework Convention on Climate Change: 29 October- 10 November 2001", pp.3-15.

[526] "Summary of the Eighth Conference of the Parties to the UN Framework Convention on Climate Change: 23 October- 1 November 2002", p.3.

[527] "Summary of the Ninth Conference of the Parties to the UN Framework Convention on Climate Change: 1-12 December 2003", pp.3-13.

[528] "Summary of the Tenth Conference of the Parties to the UN Framework Convention on Climate Change: 6-18 December 2004", p.9.

[529] "Summary of the Eleventh Conference of the Parties to the UN Framework Convention on Climate Change and First Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: 28 November- 10 December 2005", pp.3-13.

about the speed of technology transfer.[530] In COP 13, Nigeria, speaking on behalf of the African Group, asked developed nations to stick to their present commitments.[531]

In COP 14, South Africa underlined the execution of developed countries' financing, technology, and capacity building pledges. Also, during negotiations on technology and financing, South Africa and the EU emphasized a country-driven strategy and systematic finance.[532] In COP 15, Algeria, speaking on behalf of the African Group, raised deep concerns about the lack of development at past sessions and reminded participants that climate change already impacts Africans through rising droughts, health risks, food scarcity, and migration. During the high-level segment, the country demanded fair and transparent negotiations. As a result, in the final session of COP 15, several developed and developing states and coalitions, including the EU, the African Group, the LDCs, Russia, Japan, the Philippines, and Singapore, backed the Copenhagen Accord.[533]

Moreover, Meles Zenawi, Prime Minister of Ethiopia, spoke for the African Group during national remarks in the high-level segment. He emphasized the significance of Africa speaking with one voice and presented a short-term financing proposal that calls for $10 billion annually for 2010–2012, 40% of funds designated for Africa, and a panel of experts to assist in introducing the fund. Regarding long-term funding, he stated that by 2020, $100 billion annually would be needed, at least 50% of which should be allocated to the LDCs and the SIDS, and the African Development Bank should handle Africa's part.[534] In COP 16, Cuba, on behalf of Argentina, Brazil, China, India, and Saudi Arabia, and with the backing of South Africa and others, emphasized the concepts of the CBDR. Besides, Algeria, speaking on behalf of the

[530] "Summary of the Twelfth Conference of the Parties to the UN Framework Convention on Climate Change and Second Meeting of the Parties to the Kyoto Protocol: 6-17 November 2006", p.17.

[531] "Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007", p.3.

[532] "Summary of the Fourteenth Conference of Parties to the UN Framework Convention on Climate Change and Fourth Meeting of Parties to the Kyoto Protocol: 1-12 December 2008", pp.13-14.

[533] "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009", pp.3-8.

[534] "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009", p.26.

African Group, stated that Cancun had helped reestablish faith in the international community and supported the documents.[535]

At COP 17, South Africa hosted the COP 17. The president of South Africa, Jacob Zuma, highlighted the need for a fair, impartial, and credible decision in Durban. He emphasized the obligation to uphold the global rules-based framework founded on the Kyoto Protocol and the necessity of providing financial support to address the effects of climate change by making the GCF functional.[536] In the high-level segment, South African President Jacob Zuma highlighted that countries considering a second commitment period require assurances that others would be willing to commit to a legally enforceable system in the near future and share the burden. He further stated that parties are seeking assurances on the long-term financing. He urged agreement on the legalization and execution of developed nations' mitigation commitments and on standards for comparing commitments from parties and non-parties to the Protocol. According to Zuma, two crucial challenges are adaptation and funding.[537]

In COP 18, Kenya for the African Group emphasized including crucial Bali Action Plan components as a need for negotiations.[538] At COP 19, South Africa, the Federated States of Micronesia, and Bolivia emphasized the mitigation, implementation, funding, and technology gaps. Additionally, South Africa highlighted the need for more effective ways of implementation for non-Annex I states and suggested a platform to link funds with the necessary support. Besides, Swaziland, speaking on behalf of the African Group, emphasized the need for more openness in financial, technological, and capacity building pledges by outlining precise amounts, deadlines, and sources.[539]

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[535] "Summary of the Cancun Climate Change Conference: 29 November – 11 December 2010", pp.16-26.

[536] "Summary of the Durban Climate Change Conference: 28 November - 11 December 2011", p.3

[537] "Summary of the Durban Climate Change Conference: 28 November - 11 December 2011", p.25.

[538] "Summary of the Doha Climate Change Conference: 26 November-8 December 2012", p.8.

[539] "Summary of the Warsaw Climate Change Conference: 11-23 November 2013", pp.12-13.

In COP 20, South Africa emphasized that a long-term objective for mitigation ought to align with what science advises. Also, Egypt spoke on behalf of the African Group and argued that long-term climate finance should not be limited to US$100 billion annually.[540] At COP 21, Sudan stressed financial and support transparency challenges on behalf of the African Group.[541] In COP 22, Iran, speaking for the LMDCs; Chile, speaking for the AILAC; and Mali, speaking for the African Group, all emphasized the relationship between a nation's capacity and its ability to carry out its pledges.[542]

At COP 23, Mali, speaking for the African Group, expressed dissatisfaction with the lack of pre-2020 action and concluded that only 84 states have ratified the Doha Amendment.[543] In COP 24, the African Group emphasized the need to track progress on all NDC components and the importance of operationalizing equality.[544] At COP 25, Egypt, speaking on behalf of the African Group, emphasized the need for grant-based funding to prevent the rising debt loads of developing nations. Also, Egypt, speaking for the African Group; Saudi Arabia, speaking for the Arab Group; Argentina, speaking for the ABU; and Malaysia, speaking for the LMDCs, among many others, voiced their severe dissatisfaction and pushed developed nations to commit to climate funding.[545]

In COP 26, Gabon, speaking on behalf of the African Group, emphasized its hope that a resolution would be found based on Africa's unique requirements and circumstances while pointing out the fragility of the continent as supported by empirical evidence.[546] At COP 27, Zambia, speaking on behalf of the African Group, emphasized that the group regarded the African COP as crucial to ensuring the

[540] "Summary of the Lima Climate Change Conference: 1-14 December 2014", pp.4-36.

[541] "Summary of the Paris Climate Change Conference: 29 November-13 December 2015", p.12.

[542] "Summary of the Marrakech Climate Change Conference: 7-19 November 2016", p.19.

[543] "Summary of the Fiji / Bonn Climate Change Conference: 6-17 November 2017", p.29.

[544] "Summary of the Katowice Climate Change Conference: 2-15 December 2018", p.13.

[545] "Summary of the Chile/Madrid Climate Change Conference: 2-15 December 2019", pp.3-18.

[546] "Glasgow Climate Change Conference: 31 October -13 November 2021", pp.3-4.

financial system is on course to tackle climate change. The group regretted that there was no consensus regarding Africa's specific needs and challenges.[547] Finally, in COP 28, Zambia, representing the African Group, highlighted the necessity for further efforts towards achieving the global objective of adaptation, particularly in relation to thematic and dimensional objectives.[548]

6.10. Conclusion

This chapter presents South Africa's climate policy framework, the country's position, and the coalitions South Africa belonged to in the UNFCCC meetings. The climate policy framework was analyzed according to documents submitted to the UNFCCC. Specifically, South Africa's NDCs, the BUR, the NCCAS, and the SA-LEDS were considered. These documents presented South Africa's climate change initiatives, ambitions, and policies. South Africa's first NDC, submitted to the UNFCCC in 2016, has two main sections for climate goals. These sections cover adaptation and mitigation. The country also described its adaptation and mitigation objectives for 2021-2030 in its revised NDC, which was submitted to the UNFCCC in 2021. It is obvious that the updated NDC improved the nation's emissions target range for 2030 compared to the first NDC.

BUR 5 of South Africa thoroughly examines the nation's continuous endeavors to address climate change in different sectors, such as energy, AFOLU, IPPU, and waste. The report emphasizes various measures and initiatives aimed at decreasing the release of greenhouse gases, advancing sustainability, and stimulating economic development in accordance with the nation's climate objectives. The initiatives are financed by a combination of domestic and international funding, emphasizing the significance of cooperative alliances in tackling climate change. Moreover, the report highlights the crucial importance of technology transfer and capacity building in strengthening South Africa's capacity to implement and maintain its climate objectives.

[547] "Sharm El Sheikh Climate Change Conference: 6 -20 November 2022", p.29.

[548] "Summary of the 2023 Dubai Climate Change Conference:30 November – 13 December 2023", p.26.

The NCCAS identifies essential areas for achieving the country's collective goal of coping with and adapting to climate change. The NCCAS supports South Africa's commitment to its obligations under the UNFCCC's Paris Agreement and other international agreements. The NCCAS provides the framework for South Africa to fulfill its obligations under the adaptation commitments stated in the NDCs. Strategic objectives, strategic interventions, and strategic outcomes with corresponding actions are the three categories into which the NCCAS is divided. The document presents 4 objectives, 9 strategies, and 12 strategic outcomes for addressing climate change.

Finally, in the SA-LEDS, which was presented to the UNFCCC in 2020, South Africa demonstrated its plan for attaining low-carbon development. The foundation of the SA-LEDS is the long history of climate change initiatives in South Africa. Intending to maximize resources and win the support of significant stakeholders, it develops the plans, policies, and studies currently in operation. The document states that South Africa's long-term transition will be done through three phases. The first phase is about the initiation of the transition. The second phase covers making necessary investments and developing relevant policies. In the last phase, environmentally friendly solutions are expected to become an accepted societal norm.

Besides official documents submitted to the UNFCCC, South Africa's positioning and negotiating climate issues from COP 1 to COP 28 were elaborated. The country negotiated climate issues by itself and through the G-77/China, the BASIC, and the African Group coalitions. Since the positions and arguments of the G-77/China and the BASIC were presented in the previous chapter, only the positions and arguments of the African Group were presented in this chapter.

The climate issues that South Africa and its coalitions surfaced in the UNFCCC meetings can be summarized as the following: They emphasized the association between climate change and other issues, attracted attention to the adverse social and economic effects of climate change, put emphasis on African countries' vulnerability, pointed out the lack of financial and technical assistance for mitigation and adaptation, reaffirmed that developed states must take the lead and advance their

climate commitments and emphasized the concept of CBDR. Also, they underlined the necessity for addressing issues of technology transfer, emphasized challenges accessing the GEF funds, pointed out the lack of commitment to capacity building, criticized the unequal allocation of capacity building and the CDM projects, emphasized the mitigation, adaptation, implementation, funding, and technology gaps, stressed financial and support transparency challenges, emphasized the need of grant-based funding, pushed developed nations to commit to climate funding and highlighted transparency in financial, technological, and capacity building pledges.

By utilizing neoliberal institutionalism to examine South Africa's participation in global climate governance, it becomes apparent that international institutions can facilitate multilateral engagement while allowing developing nations to pursue their national interests. The institutional framework of the UNFCCC has enabled South Africa to establish and improve its climate commitments through its organized mechanisms. In this regard, South Africa has effectively articulated its distinct challenges and priorities through this institutional architecture. Thus, despite power imbalances in the international system, the theory serves to explain South Africa's strategic decisions to interact through a variety of institutional channels and coalitions since these lower transaction costs and provide chances for successful negotiations.

CHAPTER 7

GERMANY

7.1. Introduction

This chapter explores Germany's climate policy framework, drawing from official documents submitted to the UNFCCC and examining the country's evolving stance over multiple UNFCCC meetings, ranging from COP 1 to COP 28. As a major European economy, Germany's climate policies, strategies, and positions carry substantial weight in the global fight against climate change and the pursuit of adaptation measures. Analyzing Germany as a case study offers invaluable insights into the intricate challenges of tackling emissions in a developed nation within the European continent. With its ambitious climate goals, robust legislative frameworks, and innovative technologies, Germany is a crucial example of how a developed nation can address emissions reduction and sustainable practices. Its contributions in sharing best practices, advocating for more ambitious targets, and supporting climate finance mechanisms make Germany a key player in fostering international cooperation and driving the urgent agenda of mitigating climate change impacts globally.

The analysis will focus on Germany's NDCs, the BR, the Federal Climate Act, and the Climate Action Plan 2050. By closely examining these official documents, the chapter aims to gain insights into Germany's climate objectives, policies, and approaches. Being a member of the EU, Germany's involvement in global climate action is intrinsically linked to that of the EU, making it challenging to differentiate between the two. Hence, this chapter emphasizes the inseparable aspect of Germany's contributions to the EU's overall stance in international climate negotiations.

Moreover, this chapter explores how Germany's involvement with international climate bodies has influenced the development of its and European climate policies while also having an impact on global climate governance through the perspective of neoliberal institutionalism. Neoliberal institutionalism is essential for understanding the German case, as it demonstrates how international institutions facilitate interstate dialogue and policy convergence among actors with varying priorities. Thus, this theory illustrates Germany's complex interactions, illustrating how international institutions can minimize uncertainty, establish common norms, and develop frameworks for collective action. In this realm, this theoretical perspective is particularly useful for examining Germany's dual role as a sovereign state and an EU member state, illustrating how institutional arrangements facilitate climate negotiations through established standards, exchange of information, and coordinated policy actions.

Additionally, this chapter will shed light on Germany's approaches, positions, and priorities expressed during the UNFCCC meetings. It is important to note that, as an EU member, Germany's representation in these meetings is predominantly carried out by the EU. Hence, the main goal of this chapter is to provide a comprehensive understanding of Germany's climate policy framework, priorities, and stance in climate discussions together with the EU. In the end, the chapter sheds light on the country's approach to addressing climate change and its valuable contributions to international climate negotiations.

7.2. Climate Policy Framework

When examining Germany's stance on climate change issues in its UNFCCC submissions, it is important to take into account the larger context in which Germany functions: the EU. Being one of the biggest and most powerful members, Germany has considerable influence on how EU policies are developed. Yet, Germany is also constrained by the EU's collective obligations and policies in the field of climate governance. Hence, Germany's approach to key climate issues is formulated as part of a coordinated EU approach since the EU negotiates as a unified entity in international climate action.

Throughout the maturation of the EU's climate policy, the EU's climate targets have progressively increased, and the Union adapted its policies to reduce GHG emissions.[549] The 1990s saw little advancement in EU climate policy and governance, whereas the 2000s witnessed a rise in the politicization of climate change. Afterward, the first half of the 2010s saw a slowdown in the development of climate policies, with fragmented implementation and challenging, occasional, and modest policy advancements. New policy initiatives were put forth in the latter part of the 2010s, particularly concerning target-setting, 2030 policy measures, and the release of the European Green Deal in 2019.[550] Within this framework, EU coordination is needed to make sure that EU climate policy is consistent and unified.

Energy and climate policy are areas of mixed competence, necessitating alignment and connectivity between EU institutions and member states. This is further supported by the fact that climate change is cross-cutting, necessitating the integration of climate policy into several other sectoral policies, including energy, trade, development, agriculture, and so on. Also, the EU's decision-making processes for these policies are mixed, with a majority vote applied to most climate-related policies and unanimity needed for more sensitive topics like taxation.[551] Hence, Germany's climate objectives, policies, and strategies are influenced by these shared goals and represented within the broader framework of EU coordination.

The EU submitted the first NDC of Germany to the UNFCCC in 2016. More specifically, the EU submitted the NDC on behalf of its member states. According to the NDC, energy, IPPU, agriculture, waste, and LULUCF sectors were covered. In

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[549] Ingmar Von Homeyer, Sebastian Oberthür, and Andrew J. Jordan. "EU Climate and Energy Governance in Times of Crisis: Towards A New Agenda." *Journal of European Public Policy* 28, no:7 (2021), p.962; Eray Erbil. "Redefining Energy Dynamics: Eastern Mediterranean in the Era of Decarbonization". The Square. May 12, 2024. Retrieved from https://www.thesquarecentre.org/2024/05/12/redefining-energy-dynamics-eastern-mediterranean-in-the-era-of-decarbonization/

[550] Claire Dupont, Brendan Moore, Elin Lerum Boasson, Viviane Gravey, Andrew Jordan, Paula Kivimaa, Kati Kulovesi et al. "Three Decades of EU Climate Policy: Racing Toward Climate Neutrality?" *Wiley Interdisciplinary Reviews: Climate Change* 15, no:1 (2024), p.3.

[551] Eray Erbil and Oktay Tanrısever. "Energy Regionalism in Wider Europe: Sub-Regional Energy Dynamics and the EU's Eastern Partnership." *Ankara Avrupa Çalışmaları Dergisi* 23, no:1, pp.77-78; Sebastian Oberthür and Claire Dupont. "The European Union's International Climate Leadership: Towards A Grand Climate Strategy?" *Journal of European Public Policy* 28, no:7 (2021), p.1103.

the NDC, the EU and its member states have agreed to a binding commitment of at least 40% domestic reductions in GHG emissions by 2030 compared to 1990 levels. Germany's NDC target indicates a considerable improvement above its current pledges to reduce emissions by 20% by 2020 compared to 1990. In fact, compared to 1990 levels, the EU and its member states' emissions have already decreased by approximately 19%. Due to this, the average per capita emissions throughout the EU and its member states decreased from 12 tonnes of CO2 equivalent in 1990 to 9 tonnes of CO2 equivalent in 2012, and it is projected to decrease further to about 6 tonnes of CO2 equivalent in 2030.[552]

In the updated NDC in 2020, the EU and its member states have pledged to legally enforceable goals to cut domestic GHG emissions by at least 55% by 2030 compared to 1990. The updated NDC covered energy, IPPU, agriculture, waste, and LULUCF sectors in the first NDC. By the end of 2019, the EU and its member states have already decreased their emissions by roughly 26% compared to 1990. Consequently, the average amount of per capita emissions in the EU and its member states decreased from 12 tonnes of CO2 equivalent in 1990 to 8.3 tonnes of CO2 equivalent.[553]

In the recent update of the NDC in 2023, the EU outlines the steps that led up to it, beginning with adopting the Paris Agreement in 2016 and the previous NDC targets. Following the directives of the European Council in 2020, the EU has submitted an updated NDC that includes a more ambitious target of reducing emissions by at least 55%. The target was subsequently ratified as legally binding by adopting the European Climate Law in 2021. In this NDC, the EU presents a comprehensive summary of the primary domestic policies implemented to align with the newly established climate target in 2020. These policies encompass modifying the EU Emissions Trading System (ETS), the Effort Sharing Regulation (ESR), the

[552] "Intended Nationally Determined Contribution of the EU and its Member States". United Nations Framework Convention on Climate Change. March 6, 2015. Retrieved from https://unfccc.int/sites/default/files/LV-03-06-EU%20INDC.pdf , pp.1-3.

[553] "The Update of the Nationally Determined Contribution of the European Union and its Member States". United Nations Framework Convention on Climate Change. December 17, 2020. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020.pdf ,pp.6-17.

regulation on LULUCF, and all the crucial components of the 'Fit for 55' package. The revised NDC incorporates the essential details required for clear, transparent, and comprehensive understanding, outlining all the components of the NDC.[554]

In the fifth BR, the national circumstances, inventories, and actions of Germany were presented. The report is the last BR submitted by the country in 2023. According to the report, Germany's GHG emissions decreased from 1.242 MtCO2 equivalent in 1990 to 729 MtCO2 equivalent in 2020, demonstrating Germany's adherence to its climate commitments. According to the document, the energy sector has the greatest share of Germany's total emissions, which is followed by industry, buildings, transportation, agriculture, waste management, and other sectors. For 2030, it is targeted that GHG emissions will be 438 MtCO2 equivalent.[555]

The Federal Climate Change Act (Bundes-Klimaschutzgesetz) regulates Germany's climate policy, which outlines the country's major climate targets. This Act, which was approved in 2019, establishes legally enforceable national climate action goals and offers a framework for ensuring their achievement and compliance with the related European climate targets. The federal government's climate action plans, which include steps to cut GHG emissions and are periodically revised, are the primary tools to achieve these climate targets.[556]

7.3. Federal Climate Change Act

Under its Climate Change Act, Germany has committed to achieving net GHG neutrality by 2045. Additionally, the Act mandates emissions reductions of at least

[554] "The Update of the Nationally Determined Contribution of the European Union and its Member States". United Nations Framework Convention on Climate Change. October 16, 2023. Retrieved from https://unfccc.int/sites/default/files/NDC/2023-10/ES-2023-10-17%20EU%20submission%20NDC%20update.pdf, pp.1-9.

[555] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. February 3, 2023. Retrieved from https://unfccc.int/sites/default/files/resource/8th%20National%20Communication_5th%20BR%20Germany.pdf , p.17.

[556] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.74.

65% by 2030 and at least 88% by 2040 in comparison to 1990 levels. For the years up to 2030, the Act specifies a range of maximum allowed yearly emission levels for specific industries. In 2019, the Climate Change Act was approved. It initially set a 55% national reduction target by 2030. The target was then raised to 65% in 2021 due to an amendment to the Act.[557]

The Act is composed of 5 parts with 15 sections and two Annexes. In the first part, named general provisions, the Act's purpose and definitions are explained consecutively under sections one and two. The first section states that this Act aims to ensure protection from the consequences of global climate change by assuring the accomplishment of national climate targets and compliance with European climate targets. The Act is based on the pledges made by Germany at the UN Climate Action Summit in New York in 2019 to achieve the long-term objective of GHG neutrality by 2050, as well as the obligation under the Paris Agreement, under the UNFCCC to keep the rise in the global average temperature to substantially below 2°C and, if possible, to 1.5°C above the pre-industrial level in order to reduce the adverse effects of global climate change. In the second section, relevant and specific concepts and terms are defined.[558]

In part two, climate objectives and yearly emission budgets are presented under sections 3,4,5,6,7 and 8. In the third section, national climate targets are defined. It is stated that GHG emissions have to be consistently reduced in contrast to their levels in 1990. By 2030, the reduction must be at least 55%. This is without prejudice to the potential of fulfilling national climate objectives by utilizing intergovernmental mechanisms to reduce GHG emissions. It is also stated in the same section that the federal government should take the appropriate actions to raise the goal values if higher national climate targets are required to comply with European or international climate targets.[559]

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[557] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.74.

[558] "Federal Climate Change Act". Federal Ministry of Justice. December 12, 2019. Retrieved from https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Gesetze/ksg_final_en_bf.pdf , pp.1-2.

[559] "Federal Climate Change Act" ,p.3.

In the fourth section, it is asserted that to meet the Act's national climate objectives, yearly reduction targets have to be set by establishing annual emission budgets for the following sectors: energy, industry, transportation, buildings, agriculture, waste, and others. The section gives references to the two annexes that indicate the sources of emissions for each industry and the yearly emission budgets. For 2030, it is targeted that GHG emissions for the abovementioned sectors will be 438 MtCO2 equivalent. The section further indicates that the distribution of emission sources and yearly emission budgets to the sectors listed in Annexes can be changed by the federal government through a legislative instrument, which does not necessitate the approval of the Bundesrat insofar as this is required to ensure consistent international reporting of GHG emissions and is compatible with legal requirements of the EU.[560]

The section also states that the Federal Minister, whose mandate gives the relevant sector its main responsibility, should promote compliance with yearly emission budgets. Its responsibility will be to launch the national initiatives necessary for this compliance, focusing on outlining and implementing the initiatives. Moreover, the federal government will regulate yearly reduced emission budgets through a legislative instrument in 2025 for all succeeding time periods after 2030. These budgets must be in line with the rules of the EU laws as well as the fulfillment of the Act's climate objectives.[561]

The fifth section explains data on emissions and the authority to adopt obligatory regulations. It is asserted that starting with the 2020 reporting year, the Federal Environment Agency (Umweltbundesamt), in accordance with the methodology prescribed by the European Monitoring Mechanism Implementing Regulation or the European Governance Regulation, gather the data on GHG emissions in the sectors listed in Annex of this Act for the preceding calendar year. Also, it is stated that the federal government may decide who is responsible for determining and communicating the data, specify which data are to be determined and submitted, establish requirements for determining and communicating the data, and regulate the

[560] "Federal Climate Change Act", pp.3-4.

[561] "Federal Climate Change Act", p.4.

process for doing so through the use of legislation without the consent of the Bundesrat.[562]

In the sixth section, provisions regarding fines are defined. It is stated that anyone who intentionally violates a legislative rule within section 5 of this Act commits a legal violation, which is punished by a fine of up to 50,000 euros.[563] The seventh section presents implementation rules for the European Effort Sharing Regulation. It is expressed that depending on the funds available in the federal budget, the federal ministry in charge of carrying out the European Effort Sharing Regulation shall centrally acquire emission allocations to fulfill obligations under the Regulation. Also, along with the draft of the federal budget, the federal government must provide evidence to the Bundestag and Bundesrat.[564]

In the eighth section, programs for immediate intervention are presented if yearly emission budgets are exceeded. It is stated that if the emissions data mentioned in section 5 of this Act show that the permitted annual emission budget for a sector has been surpassed in a reporting year, the responsible federal government Ministry prepares an immediate action program for the relevant sector, with the program ensuring compliance with the annual sectoral emission budgets in following years. Also, the federal government evaluates the actions to be undertaken in the relevant sector, in other sectors, or concerning cross-sector actions and shall implement these actions as soon as feasible. In doing so, it may adjust the yearly sectoral emission budgets referred to in section 4 of this Act, considering the flexibility already provided by the European Effort Sharing Regulation. In addition, the federal government must communicate the executed measures to the Bundestag.[565]

Part three describes planning for climate action in sections 9 and 10. In section nine, information regarding climate action programs is explained. It is asserted that the

[562] "Federal Climate Change Act", p.4.

[563] "Federal Climate Change Act" ,p.5.

[564] "Federal Climate Change Act", p.5.

[565] "Federal Climate Change Act", pp.5-6.

federal government must establish a climate action program at least once following each revision of the Climate Action Plan. Also, the federal government must outline the steps it will take to meet the sector-specific national climate objectives in each climate action program. In addition, the climate action program must be implemented no later than the calendar year after the update of the Climate Action Plan. Moreover, through a public consultation process, the federal government can incorporate the Länder, municipalities, business associations, and civil society organizations, as well as the Scientific Platform on Climate Change and the federal government's scientific advisory bodies, in every climate action program.[566]

Section ten defines the reporting processes. It is stated that the federal government must generate an annual climate action report explaining the evolution of GHG emissions in various industries and the status of implementing the programs for addressing climate change. From 2021, the federal government shall adhere to the guidelines outlined in the European Governance Regulation and submit a climate projection report every two years. Additionally, the integrated national progress reports required by the European Governance Regulation shall center on the climate projection report. In the end, all reports are then forwarded to the Bundestag.[567]

Part four of the Act gives the Council of Experts on Climate Change a place with sections 11-12. In section eleven, the authority of the Council to adopt legislative measures is described. It is stated that five specialist individuals from diverse areas will make up the Council of Experts on Climate Change. The federal government will choose the members for a five-year duration. Also, the Council is empowered to enact legislative measures without the approval of the Bundesrat, is solely constrained by the mandate established by this Act and is free to act independently.[568]

In section twelve, the responsibilities of the Council are presented. The Council of Experts on Climate Change will review the emissions data specified in Section 5 of

[566] "Federal Climate Change Act", p.6.

[567] "Federal Climate Change Act", p.7.

[568] "Federal Climate Change Act", p.7.

this Act and shall give an evaluation of the published statistics to the federal government and the Bundestag within one month of its submission by the Federal Environment Agency. Before recommending a decision on the initiatives referred to in section 8, the Council should consider the GHG reduction estimates underlying the measures. Also, before directing the execution of the initiatives, such as changing the annual emission budgets, updating the Climate Action Plan, and adopting a climate action program, the federal government shall seek the advice of the Council regarding the fundamental assumptions on reducing GHG.[569]

In part five, the functions of public governing bodies as role models are explained through sections 13,14 and 15. In section thirteen, consideration of necessity is presented. It is stated that bodies performing public functions must pay appropriate respect to the purpose of this Act and the targets specified for its execution. In addition, while planning, choosing, and making investments and procurements, the Federation must consider how these activities might help meet the climate objectives outlined in Section 3 of this Act. Section fourteen explains Federation-Länder cooperation. It is expressed that the Länder can adopt its climate change legislation, subject to its compliance with federal law. The current Länder climate change laws shall remain in effect without affecting its consistency with federal law. To implement the goals of this Act, the Federation and the Länder must work together appropriately.[570]

In the last section, climate-neutral federal governance is described. It is stated that the Federation will establish a target for achieving climate-neutral federal governance by 2030. To accomplish this, the federal government shall adopt, by no later than the year 2023, and subsequently every five years, measures that must be adhered to by the federal agencies and other federal institutions which lack their legal entity and fall under the formal authority of the Federation. Moreover, the federal government must become climate neutral by, among other things, conserving energy, providing, converting, using, and storing energy efficiently, utilizing renewable energy sources effectively, and choosing the most environmentally friendly modes of

[569] "Federal Climate Change Act", p.8.

[570] "Federal Climate Change Act", pp.8-9.

transportation. In this situation, an effort must be made to guarantee the effective use of natural resources. It is also stated that the Federation will try to guarantee that the companies, agencies, and foundations it controls adopt a climate-neutral organizational structure for their administrative operations. Also, the federal government will collaborate with the Länder to share experiences to support the Länder within its area of jurisdiction.[571]

In 2021, section three of the Act was amended. Accordingly, it is stated that GHG emissions have to be decreased by at least 65% by 2030 and 88% by 2040. The reduction in GHG emissions must reach net GHG neutrality by 2045. Negative GHG emissions are projected to be attained by the year 2050. In section 3a, the engagement of LULUCF is explained. It is stated that increasing the LULUCF sector's involvement in climate change mitigation is necessary. The LULUCF sector must reduce its yearly emissions balances on average to at least minus 25 MtCO2 equivalent by 2030, minus 35 MtCO2 equivalent by 2040, and minus 40 MtCO2 equivalent by 2045 compared to 1990.[572]

7.4. Finance

In 2019, Germany contributed around €6.76 billion/$7.57 billion to public-sector climate financing. At the same time, private climate funds totaling €770 million/$862 million were mobilized. In 2020, the total amount of public sector climate financing was around €7.6 billion/$8.67 billion. In the same year, the amount of private climate finance was raised around €192 million/$219 million.[573] Ultimately, this demonstrates the increasing trend in public climate financing while decreasing the trend in private climate funding between 2019 and 2020 in Germany.

The German government uses various tools and organizations, including bilateral financial, technical, and academic collaboration, in its international climate change

[571] "Federal Climate Change Act", p.9.

[572] "Amended Federal Climate Change Act".Federal Ministry of Justice. December 12, 2019. Retrieved from https://www.gesetze-im-internet.de/englisch_ksg/englisch_ksg.html#p0013

[573] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.145.

and development cooperation. Among them, German climate funding is mainly focused on bilateral collaboration. Bilateral cooperation contributed over 85% of the budgetary funds utilized for climate financing between 2019 and 2020. In addition, multilateral cooperation includes financial support for global climate funds, including the GCF, the GEF, and the AF, and collaboration with MDBs and specialized UN agencies.[574]

In 2019, bilateral climate funding totaled €3.7 billion/$4.14 billion, while multilateral climate finance totaled €588 million/$658 million. In 2020, bilateral climate funding provided around €4 billion/$4.56 billion, while multilateral climate finance delivered €1.06 billion/$1.21 billion. Hence, in 2019 and 2020, Germany's contribution to bilateral funding totaled around €7.7 billion/$8.71 billion, while the country's contribution to multilateral funding totaled approximately €1.6 billion/$1.8 billion. In this realm, bilateral funding has the greatest share in both years, with over %85. However, from 2019 to 2020, its share decreased from 86% to 79%, demonstrating Germany's increasing share of multilateral finance contributions.[575]

Regarding bilateral cooperation, budgetary funds for adaptation measures totaled roughly €1.48 billion/$1.66 billion in 2019, whereas funds for emissions-reduction initiatives totaled about €2.22 billion/$2.48 billion. In 2020, adaption initiatives received €1.54 billion/$1.76 billion of the bilateral financing, while emissions-reduction initiatives received €2.46 billion/$2.81 billion.[576] Consequently, throughout the reporting years of 2019 and 2020, an average of 40% of Germany's bilateral climate funds was allocated to adaptation initiatives, while approximately 60% of bilateral climate funds were allocated to emissions-reduction initiatives. In total, €7.7 billion/$8.71 billion was contributed through bilateral channels by Germany.

Regarding multilateral cooperation, Germany was one of the GCF's top donors, contributing €750 million/$1.03 billion. Also, Germany was the second-largest donor

[574] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.146.

[575] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", pp.149-150.

[576] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.150.

to the GEF behind Japan, with a promise of €420 million/$496 million. Moreover, German contributions to the LDCF in 2020 totaled €315 million/$372 million, and the country contributed over €50 million or $56.5 million during the reporting year. In addition, Germany has committed €90 million or $120 million to the SCCF, and the country did not contribute any additional funds to the SCCF throughout the reporting period. Hence, Germany is the greatest donor to the LDCF and the SSCF.[577]

In 2019 and 2020, Germany contributed €80 million/$91 million to the AF. In 2020, the country contributed €630 million/$719 million to the CIFs. Moreover, Germany is the fourth-largest donor to the Clean Technology Fund (CTF), contributing €500 million/$615 million. Additionally, Germany provided grants of €50 million/$66 million dollars and €80 million/$97 million to the Global Energy Storage Programme (GESP) and the Pilot Program for Climate Resilience (PPCR), respectively. Besides, in 2019-2020, the Multilateral Fund for the Implementation of the Montreal Protocol (MP) received donations from Germany totaling €24.4 million/$27.6 million. Moreover, specialized UN bodies received approximately €97 million/$111 million from Germany.[578] In 2019 and 2020, Germany contributed around €1.6 billion/$1.8 billion through multilateral channels.

While supporting other countries, the German government prioritizes ecosystem-based adaptation, agricultural production adaptation, food supply security, water management and adaptation, and risk management tools in relation to climate change outcomes. The assistance is given through preparing and implementing national adaptation plans within the context of nations' NAPs and NDCs, as well as through instruments like adaptable social security systems and cutting-edge insurance solutions. Moreover, one of the main objectives of the German development strategy is to support efforts in worldwide GHG emission reduction. In this realm, Germany works with partner countries to implement socially just transformation while

[577] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", pp.153-154.

[578] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", pp.154-155.

constructing low-emission and climate-neutral economic and supply infrastructure. These initiatives include increasing the use of renewable energy sources, lowering the use of fossil fuels, minimizing fluorinated GHGs, and implementing sustainable urban design.[579]

7.5. Technology Transfer

Low carbon energies, climate-smart cities, and sustainable rural development are the main topic areas and technological disciplines that are of particular relevance for German collaboration for development in the field of climate technologies. The country supports the UNFCCC's TEC and CTCN mechanisms in the field of technological cooperation. Since 2013, Germany has proactively financed the CTCN with funds totaling €1.05 million/$1.24 million and the TEC with contributions totaling €650.000/$767.142.[580]

Moreover, the Federal Ministry for Economic Cooperation and Development of Germany (BMZ) supports cutting-edge, climate-friendly, and climate-adapted policies in developing states through the German Climate Technology Initiative (DKTI). The BMZ's initiatives include infrastructure, support for GHG emission reductions, and adaptation to climate change. In 2019 and 2020, approximately €3.86 billion/$4.37 billion in project finance was pledged from the BMZ.[581]

Regarding the delivery of assistance for technology transfer, eight countries (Albania, India, Senegal, Uzbekistan, China, Thailand, Mexico, and Colombia) received support from Germany in the field of mitigation. Albania received support for sustainable waste systems, India received assistance for sustainability in the building sector and public transportation, Senegal received support for electric batteries, Uzbekistan received assistance for filter equipment, China received support

[579] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", ppp.156-162.

[580] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.172.

[581] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", p.172.

for waste management, Thailand and Mexico received assistance for energy efficiency and Colombia received support for transportation.[582]

7.6. Capacity Building

The German government engages in capacity building through bilateral and international collaboration, as well as several partnerships with the commercial sector, academia, and civil society. The country delivers significant provisions on capacity building in GHG reduction, adaptation to climate change, technology transfer, and access to climate finance to assist partner states in successfully implementing the UNFCCC and the Paris Agreement. The assistance measures for capacity building are made to be context-specific and goal-oriented in accordance with national goals. In this effort, the German government uses various organizations and tools for international collaboration to enhance skills in the fields of climate and development at the human, institutional, and systemic levels.[583]

Germany provided capacity building support to 25 countries/regions for mitigation and adaptation measures. The country supported the development of a climate-friendly electricity industry in the Economic Community of West African States (ECOWAS) area. Germany supported Laos by establishing an approach to enhance LULUCF sector activities, Madagascar was supported by agricultural value chain adaptation, Peru was assisted by sustainable urban transportation, and Honduras received assistance for effective management of resources. The country also assisted national and local authorities with transnational flood risk reduction initiatives in Western Balkan countries, namely Albania, Kosovo, Montenegro, and North Macedonia.[584]

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[582] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)". United Nations Framework Convention on Climate Change. December 23, 2022. Retrieved from https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Funfccc.int%2Fsites%2Fdefault%2Ffiles%2Fresource%2Fdeu_2022_v1.0.xlsx&wdOrigin=BROWSELINK

[583] "Eighth National Communication and Fifth Biennial Report of the Federal Republic of Germany Under the United Nations Framework Convention on Climate Change", pp.174-175.

[584] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

Moreover, Germany provided capacity building support for the SIDS and the LDCs under the "Impact Project" for efficiently using resources and increasing skills to adapt to climate change. Also, the country supported countries from Asia, Africa, and Central and South America regarding climate change adaptation in mountainous areas. Peru, Nepal, Uganda, Kenya, Bhutan, and Colombia are the countries that received assistance from Germany. Cabo Verde is another country that received assistance from Germany in promoting electric vehicles. Besides, Germany provided capacity building support for the Antigua and Barbuda tourism sector, Dominica, Dominican Republic, Grenada, St. Kitts and Nevis, St. Lucia, Mauritius, Philippines, St. Vincent, and Grenadines.[585]

Germany supported Haiti, Yemen, Egypt, China, Kyrgyzstan, Tajikistan, Turkey, Ukraine, and Vietnam through the World Bank's Energy Sector Management Assistance Program (ESMAP). With this initiative, Germany facilitated development through sustainable energy sources. The country also supported the institutional structure of climate-smart small and medium enterprises (SMEs) from Uganda, Ghana, India, Indonesia, South Africa, and Thailand. Moreover, support was given to the Mekong region in Southeast Asia to increase climate resilience and protect wetlands. Additionally, Senegal, Morocco, Mexico, Tunisia, and Vietnam received support from Germany and France through the Program for Energy Efficiency in Building (PEEB) to increase energy efficiency in the building sector.[586]

The country provided capacity building support to Palau, Micronesia, the Marshall Islands, Indonesia, and the Philippines for coastal protection, fisheries, and food security. Also, Germany assisted Vietnam, Costa Rica, Brazil, Burundi, the Democratic Republic of Congo, Ethiopia, Rwanda, South Sudan, Sudan, and Uganda in improving climate systems by investing in infrastructure. In addition, the Marshall Island received support from Germany for low-carbon sea transportation. Moreover, Monserrat, Antigua and Barbuda, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Lucia, St. Vincent, and Grenadines received capacity building assistance from Germany for adaptation measures. In addition, Cuba, the Dominican

[585] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[586] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

Republic, and Haiti received support for adaptation and forest restoration of rural communities.[587]

Germany also provided capacity building support regarding NDCs. Fiji, Guatemala, and India received support for developing innovation initiatives and making a connection between NDC implementation and financing. Moreover, Germany supported Ethiopia, Bangladesh, the Dominican Republic, Kenya, Peru, the Philippines, and Vietnam in implementing NDCs and LEDS. The country also supported the capacity development activities of partner countries regarding their NDCs under the NDC Partnership. Besides, the country assisted 37 countries in preparing NDCs for these countries and supported 12 countries in their NDC actions. Similarly, support was given to Caribbean countries regarding the MRV to develop GHG inventories, track progress in climate targets, and analyze climate measures.[588]

7.7. Climate Action Plan 2050

The Climate Action Plan 2050 provides directions for all areas of activity as Germany attempts to meet its national climate objectives in accordance with the Paris Agreement. These focus areas include forests, trade and industry, agriculture, energy, buildings, transportation, and trade. The main components of the plan are the following: the long-term objective is based on the core principle of thorough GHG neutrality in Germany by the middle of the 21st century, fundamental values and transformative processes as a foundation for all areas of activity by 2050, achievements and targets as a framework for all sectors up to 2030, strategic measures for each area of action, and the establishment of a learning process that enables the gradual raising of ambition envisioned in the Paris Agreement.[589]

The Climate Action Plan 2050 develops guiding principles, standards, and statistics for all areas of activity based on the climate objectives for 2050. The underlying

[587] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[588] "Germany: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[589] "Climate Action Plan 2050". Federal Ministry for the Environment, Nature Conservation, Building, and Nuclear Safety (BMUB). November 17, 2016. Retrieved from https://unfccc.int/sites/default/files/resource/Klimaschutzplan_2050_eng_bf.pdf ,p.6.

notion, which is frequently applied in international GHG reporting, serves as the foundation for the Climate Action Plan 2050's definition of the areas of action. It is also stated in the Plan that each area of activity has a 2050 vision presented in the guiding principle, whereas 2030 is the target year for milestones and measures. These guiding principles and milestones were developed using an assessment of the existing climate scenarios and studies of the change required in the various areas of activity. Moreover, the Climate Action Plan 2050 objectives are defined by a technology-neutral, innovation-friendly approach lacking strict objectives. It offers recommendations for prospective investments, particularly for the years up to 2030 and 2050.[590]

The Climate Action Plan 2050 represents a paradigm change based on the success of Germany's climate policy to date, and it is believed that a comprehensive climate policy can significantly reduce the risk of stalled investments. In order to attract investments, all sectors must first substantially and permanently lower their energy consumption. Second, all industries need to utilize renewable energy directly. Third, power generated from renewable sources has to be utilized effectively. This modernization roadmap is put into practice through the Climate Action Plan 2050 on three levels: It begins by creating definite guiding principles for each of the particular action areas for 2050, allowing opportunities for creativity, and working to optimize sustainability. Second, it identifies interdependencies, examines crucial route dependencies, and offers strong transformation paths for all areas of activity. Thirdly, it serves as the foundation for goals, including the intermediate GHG target for 2030, and contains cost-effect analysis in addition to specific milestones and strategic initiatives.[591]

The action plan combines other environmental, economic, and social goals with climate action as an essential component of a national sustainability policy without establishing public funding. It is also stated that when the appropriate federal budget is created, the initiatives outlined in the action plan will be provided from the individual budgets. Moreover, it is underlined in the document that the adoption of

[590] "Climate Action Plan 2050", pp.7-11.

[591] "Climate Action Plan 2050", pp.14-15.

essential actions and widespread public involvement are important components of the effective implementation of climate action. As a result, the Federal Ministry for the Environment, Nature Conservation, Building, and Nuclear Safety (BMUB) established a thorough dialogue and participation process to give officials of the Länder and local governments, business and industry, civil society organizations, and the public the chance to actively participate in the creation of the Climate Action Plan 2050 and make recommendations for specific interventions.[592]

The action plan specifies targets and measures in energy, buildings, transportation, industry, agriculture, and LULUCF sectors. For the energy sector, it is stated that all industries must first significantly and permanently reduce their energy use. Secondly, all sectors of the economy need to use renewable energy directly. Third, energy produced from renewable sources needs to be used efficiently. Consequently, it is emphasized that increased use of renewables will increase electricity use in various sectors and enhance energy efficiency. In this regard, the country aims to create a system in which renewable resources will supply the electricity demand. In this realm, the energy sector must reduce GHG emissions to 175 and 183 MtCO2 equivalent by 2030 to meet the interim goal. More reductions will also be required after 2030 to fulfill the climate objective for 2050.[593]

The German government's primary national energy policies are centered on promoting renewable energy sources and improving energy efficiency. The Federal Ministry for Economic Affairs and Energy (BMWi) launched a comprehensive communication process with its Green Paper on Energy Efficiency. It is stated that the process results in a medium- to long-term strategy for sustainable energy use in Germany to lower consumption. Based on the consultation results, conclusions and action suggestions are summarized in a White Paper on Energy Efficiency. Then, these suggestions for action are revised periodically to reflect the development of their implementation.[594]

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[592] "Climate Action Plan 2050", p.15.

[593] "Climate Action Plan 2050", pp.34-36.

[594] "Climate Action Plan 2050", p.38.

According to the 2017 Renewable Energy Sources Act, the government will no longer limit the payment renewable power providers receive. Instead, it will be decided upon in accordance with a tendering procedure. Hence, it is underlined that with prices as low as feasible and expansion levels under control, thanks to this competitive strategy, it will be practical to follow the renewables track. In addition, BMWi has initiated a thorough consultation process called Electricity 2030. The goal is to ensure that switching to a system where renewable power is the primary energy source is affordable for the national economy and individual enterprises.[595]

Moreover, the German government is establishing a commission for growth, structural transformation, and regional development to implement strategies and develop suitable economic conditions. The commission will be established at the BMWi and include members from other government agencies, the Länder, municipal governments, labor unions, influenced industry representatives, and local actors. The committee will create various tools for social compatibility, economic growth, structural change, and climate action to promote structural transformation. This will include the financial support and the investments needed in the branches and areas impacted by the structural change.[596]

For the building sector, it is stated that considering all direct and indirect emissions, buildings are accountable for up to 30% of Germany's GHG emissions, highlighting the need for action. The German government's Energy Concept is devoted to a fully carbon-neutral building stock by 2050. The goal of the government's Climate Action Program 2020 is to produce almost climate-neutral towns and cities by 2050 while enhancing the quality of life. This is accomplished through the Climate-Friendly Building and Housing Strategy. The strategy focuses on emissions caused directly by the daily operations of residential and non-residential buildings.[597]

The German government's top priority in the building sector is to develop a stock of livable, inexpensive buildings and essentially climate-neutral buildings. To this end,

[595] "Climate Action Plan 2050", p.39.

[596] "Climate Action Plan 2050", p.41.

[597] "Climate Action Plan 2050", p.42.

the German government established the Strategy on Energy Efficiency in Buildings in 2015 as an element of the country's Energiewende. It focuses on all forms of energy consumption related to buildings to have a completely climate-neutral building stock by 2050. Future housing challenges, such as urban design, social challenges, and spatial planning, are all included in the Climate-Friendly Building and Housing Strategy. Therefore, the German government recognizes that addressing climate change in the building industry requires focusing on emissions caused by building operations while being mindful of the period before and beyond the building's operational lifespan. Also, the Strategy on Energy Efficiency in Buildings sets out an effective approach for reaching a building stock that is almost climate neutral, and it does so through integrate two key policy pillars: energy efficiency and the utilization of renewable energy.[598]

GHG emissions in the building industry must be lowered by 70 to 72 MtCO2 equivalent to attain the intermediate objective for 2030. Much more capital must be invested rapidly in optimizing today's building stock to reach an almost entirely climate-neutral building stock. In addition, it is stated that renewable energy's contribution to final energy consumption in buildings in 2030 must be continuously increased to achieve the goal of having a climate-neutral building stock by 2050.[599]

Moreover, it is underlined in the Action Plan that achieving the objective of an entirely climate-neutral building stock by 2050 would need high standards for new construction, long-term plans for renovation, and the progressive phase-out of fossil fuel heating technologies. The zero-energy building standard for new buildings will be gradually developed until a completely climate-neutral phase is achieved. In this realm, replacing existing heating systems with new ones that effectively utilize renewable energy sources will be much more desirable than doing so with systems that consume fossil fuels. Hence, to make renewable heating systems significantly more appealing than those using fossil fuels, the German government decided to gradually cease financing the replacement of heating technology that relies solely on

[598] "Climate Action Plan 2050", p.44.

[599] "Climate Action Plan 2050", pp.45-46.

fossil fuels by 2020. At the same time, financing for renewable heating technologies would be increased.[600]

Contemporary construction methods and environmentally sound, climate-friendly building materials often meet many requirements for sustainable structures. Therefore, it is put forward in the Action Plan that the German government will consider whether and how incentives can be developed in the future to promote the utilization of sustainable building and insulation products, promote modular, series-designed buildings, and provide funding for adaptive, multigenerational, fully, or partially affordable housing in order to meet the housing demand rapidly. The German government also aims to intensify its efforts in practical and application-focused research in the realms of geographical and urban development to provide cities and regions with examples of best practices in problem-solving.[601]

For the transportation sector, it is stated that by 2050, the German transportation system will have transitioned entirely to carbon-free energy sources, making it essentially GHG-neutral. The guiding concept also calls for a transportation system that uses much less land and emits less noise and air pollution. Additionally, it is projected that biofuels will serve as the primary energy source for both rail and road transportation, as well as, to a lesser extent, for aviation, marine, and inland freight. Furthermore, the role of innovations in the field of electric transportation in Europe will be promoted, pushing further research and development in battery and storage technologies.[602]

By 2030, GHG emissions from transportation need to be reduced to 95 and 98 MtCO2 equivalent to meet the intermediate target for that year. By 2030, the German government intends to reduce automobile emissions significantly. The electrification of the new automobile fleet will play a significant role in this and will be prioritized. Besides, concentrated investments in the rail network are being made to ensure that

[600] "Climate Action Plan 2050", pp.47-48.

[601] "Climate Action Plan 2050", p.48.

[602] "Climate Action Plan 2050", pp.50-51.

the conditions required to switch transportation from road to rail are fulfilled, and an adequate framework is being developed. In addition, approaches for combining biofuels and fuels based on renewable power are being examined to reduce emissions in the aviation and maritime industries. The German car industry and government have significantly progressed and provided financial assistance in electricity-based vehicle energies. Additionally, the German government is committed to contributing significantly to advancing public transportation in the future by contributing substantial financial resources.[603]

To reach its objectives in the transportation sector, the German government presented an initial examination of the technology utilized and the energy and fuel alternatives related to the various modes of transportation with the adoption of the Mobility and Fuels Strategy in 2013. Furthermore, the National Hydrogen and Fuel Cell Technology Innovation Programme continues to receive ongoing financing from the German government, which advances the innovation process required for the Energiewende. Moreover, the German government intends to continue updating the National Cycle Paths Plan (NRVP) after 2020 to assist local governments by developing an adequate legal framework and financial assistance for specific initiatives to promote cycling as a mode of transportation. Lastly, the government aims to create a digitalization strategy for the transportation industry that maximizes the potential for GHG reduction.[604]

For the industry sector, it is stated that the second-largest contributor to Germany's GHG emissions is the industrial sector. Therefore, actions of the industrial sector can lower emissions in trade, commerce, and services, as well as in the energy sectors. It is also stated that a substantial number of industrial emissions are not generated by energy usage but rather by production processes in the raw materials business industries. In this realm, the action plan underlines that a high-efficiency approach to lowering the quantity of resources and energy required for manufacturing is an essential component in the industrial modernization pathway. Another critical

[603] "Climate Action Plan 2050", pp.51-53.

[604] "Climate Action Plan 2050", pp.53-56.

component is the substitution of carbon-neutral or carbon-free fuels with fossil fuels. This involves the use of renewable energy sources. Moreover, the utilization of secondary raw materials produces fewer GHG emissions than utilizing primary raw materials. Hence, the government also pays attention to their recovery.[605]

By 2030, the industry sector has to cut its GHG emissions to between 140 and 143 MtCO2 equivalent, in accordance with the interim objective for that year. It is stated in the Action Plan that by 2030, industry, trade, commerce, and the services sector will be required to be more efficient. Integrating business and industry's material and energy efficiency more closely will also be necessary. In addition, by 2030, efforts to reduce waste and use circular economy principles in production must be significantly increased. To develop solutions for the sector, the German government targeted continuous development in resource efficiency; metrics and methods were established in the German Resource Efficiency Programme. The government also supports continuously bolstering the emissions trading system to ensure that a robust framework is in place to provide impacted enterprises with a firm foundation for planning over the medium and long term.[606]

Several measures are identified by the German government, which are seeking additional reforms for strengthening emissions trading, extending the useful lives of products and preventing waste, developing research, development, and market introduction initiatives to reduce industrial process emissions, showing a consistent, strategic endeavor to make a profit from the opportunities provided by industrial and commercial waste heat, promoting continuous improvement of the knowledge base regarding high-efficiency solutions in and for businesses, facilitating corporate reporting on climate change, and driving technological advances in industry.[607]

For the agriculture sector, it is stated that agriculture produces GHG emissions. By sustainably manufacturing biogenic raw materials, it can also significantly reduce

[605] "Climate Action Plan 2050", pp.56-58.

[606] "Climate Action Plan 2050", pp.58-59.

[607] "Climate Action Plan 2050", pp.59-61.

climate change. Thus, the German government's objective is to fully utilize agriculture's potential to support climate change mitigation. As part of sustainable agricultural production, the focus of climate change activities in agriculture up to 2050 will be on actions to cut emissions and boost resource efficiency. Moreover, transitioning to an increasingly bio-based and sustainable economy that utilizes fewer fossil fuels or phases them out totally is essential to combat climate change. This is because using bio energy derived from leftovers and waste products will be vital to delivering energy to various industries.[608]

According to the intermediate objective, agriculture's GHG emissions have to be decreased to 58 to 61 MtCO2 equivalent by 2030. It is stated in the Action Plan that in order to increase the efficacy of fertilizer application, there will need to be a significant reduction in excess nitrogen. Agriculture's ammonia emissions must also be significantly decreased. Besides, organic farming is necessary to meet the rising demand for organic products.[609]

Regarding measures in the agriculture sector, the Common Agriculture Policy (CAP) and the Joint Task for the Improvement of Agricultural Structures and Coastal Protection have developed financial initiatives in order to assist farmers in putting their adaptation plans into action. The German government has supported specialized investigation and advancement of nitrogen reduction solutions. Hence, to minimize nitrous oxide emissions, emphasis will be placed on creative methods for managing farm manure and enhancing nitrogen uptake from organic fertilizers. Besides, the government intends to increase the amount of land utilized for organic farming. As a result, the German government has set a target of having organic farming on 20% of all agricultural land. Other government measures include accelerating the fermentation of agricultural waste and manure, lowering the emissions caused by animal farming, preventing food waste, and creating innovative solutions for climate change in the agriculture sector.[610]

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[608] "Climate Action Plan 2050", pp.62-63.

[609] "Climate Action Plan 2050", pp.63-64.

[610] "Climate Action Plan 2050", pp.64-65.

For the LULUFCF sector, the guiding concept for 2050 places strongly emphasizes preserving and enhancing forests' capacity to serve as sinks. Other components of the LULUCF industry are also stated in the objectives of the Forestry Strategy 2020. These include applying sustainable forestry management to take advantage of the potential for reducing carbon dioxide and the directly related wood consumption, permanent grassland preservation, protection of wetlands, and potential for natural forest development to mitigate climate change.[611]

The German government has implemented some LULUCF-related initiatives. German government funding is being utilized to promote measures for forest management that will also consider climate change as part of the Joint Task for the Improvement of Agricultural Structures and Coastal Protection. Also, the German government's Forest Climate Fund supports initiatives to preserve and increase the capacity of forests and wood to remove carbon dioxide and support the climate change adaptation of German forests. Other measures include preserving permanent grassland, protecting peatlands, conserving and managing forests, and minimizing land take.[612]

After the presentation of targets in six sectors, the Action Plan gives a place to broaden objectives and measures. These initiatives include removing harmful environmental subsidies, encouraging climate-friendly investments, and creating effective financial markets. They also include promoting and offering incentives for making climate-conscious investments, promoting sustainable trade, evaluating societal progress, coordinating environmental monitoring, and promoting research and development.[613]

Since the adoption of the Climate Action Plan 2050 by the German government in 2016, the goals of German climate policy and its administrative frameworks have changed. In particular, the Climate Action Act, which has mandated reduction

[611] "Climate Action Plan 2050", p.67.

[612] "Climate Action Plan 2050", pp.68-72.

[613] "Climate Action Plan 2050", pp.73-74.

objectives, monitoring programs, and a mechanism for modifications, was amended in 2019. In this regard, these updates have made it necessary to revise the Action Plan for 2050. When examining the changes in emissions by sector, the waste industry experienced a 77% decrease in emissions, or 29 MtCO2 equivalent, between 1990 and 2021. Emissions in the building industry fell by 44% or 97 MtCO2 equivalent. The reduction in the industry sector came to 102 MtCO2, equivalent to 36.1%. Since 1990, there have been 32.9% or 219 MtCO2 equivalent in the energy sector, 24.6% or 13 MtCO2 equivalent in the agriculture sector, and 9.1% or 18 MtCO2 equivalent in the transportation sector.[614]

The federal government established a series of targets for the transition to GHG neutrality in addition to the legally enforceable GHG reduction objectives outlined in the Federal Climate Change Act. It is stated in the updated Action Plan that by 2030, at least 80% of Germany's gross power consumption has to be met by renewable energy sources, and 50% of the country's heat has to be generated using climate-neutral practices. Moreover, substantial changes to industrial production processes are required for Germany to evolve into a climate-neutral industrial hub. Hence, decarbonization, electrification, energy, resource optimization, the circular economy, and the use of hydrogen—which is increasingly generated in a climate-neutral way from renewable energy sources—must be the foundation of this change.[615]

In order to achieve climate neutrality by 2045 in the building sector, it is stated that new construction and renovation of existing structures will be focused on decarbonizing heating systems and significantly lowering energy consumption. In the transportation sector, the goal is to have at least 15 million electric automobiles by 2030. In addition, the goal for heavy freight transportation on roadways is for around one-third of the kilometers traveled to be powered by electrical drives or eFuels by 2030. At the same time, it intends to create one million public charging stations in

[614] "Update to the Long-Term Strategy for Climate Action of the Federal Republic of Germany". United Nations Framework Convention on Climate Change. November 3, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/Anlage%202_Update%20to%20the%20long-term%20strategy%20for%20climate%20action%20of%20the%20Federal%20Republic%20of%20Germany_02Nov2022_0.pdf , pp.3-4.

[615] "Update to the Long-Term Strategy for Climate Action of the Federal Republic of Germany", p.5.

Germany with open access for all users, emphasizing the expansion of the fast-charging network by 2030.[616]

In the agriculture sector, the federal government has aimed to increase the share of agricultural land utilized for organic farming to 30% by 2030. For the LULUCF sector, it is stated that as natural carbon sinks, forests, and wetlands need to be strengthened and extended. This will need the conservation and restoration of drained peatlands, humus, and the reduced usage of peat. A further natural carbon sink that must be conserved is permanent grassland. Additionally, it is pointed out that settlement areas have to enhance their green infrastructure.[617]

Apart from Climate Action Plan 2050, the federal government approved the comprehensive Climate Action Program 2030 in 2019. The introduction of a carbon price scheme in the non-ETS sectors, assistance for people, and measures in the sectors for further climate action were among the significant components of the Climate Action Program 2030. The Climate Action Program 2030 initiative attempted to achieve the national reduction target in place at the time of 55% by 2030. However, the amended Federal Climate Change Act of 2021 increased this objective to 65%.[618]

7.8. Germany in the UNFCCC Climate Change Conferences

Having reviewed Germany's climate policy framework as presented in its submissions to the UNFCCC, it is crucial to examine its stance and involvement in climate negotiations during the UNFCCC meetings. This analysis seeks to reveal Germany's approach toward the various topics discussed in each COP, shedding light on the issues it endorsed and opposed throughout these consultations. Furthermore, Germany and the EU have been critical participants in negotiations during the COP conferences, and the EU mainly represented Germany. Hence, Germany's collaboration with the EU in the UNFCCC meetings amplifies their impact,

[616] "Update to the Long-Term Strategy for Climate Action of the Federal Republic of Germany", p.6.

[617] "Update to the Long-Term Strategy for Climate Action of the Federal Republic of Germany", p.6.

[618] "Update to the Long-Term Strategy for Climate Action of the Federal Republic of Germany", p.7.

streamlines their policy positions, and strengthens the EU's role as a significant player in the global fight against climate change. It fosters unity, enhances their bargaining power, and allows them to work towards more ambitious and effective climate agreements.

In international climate negotiations, the role of the EU is unique and influential. Comprising 27 member states, the EU leverages its collective strength to present a unified front on climate matters. The EU's member states convene privately to deliberate and align their respective interests and objectives to achieve shared negotiation positions. This process is crucial as it lays the foundation for a cohesive approach during the UNFCCC meetings. The EU operates on a rotating presidency system, with one member state presiding over EU affairs for six months. During their tenure, the country holding the EU Presidency becomes the official spokesperson for the EU and its 27 member states, articulating the collective views and priorities on climate change. However, it is essential to note that while the EU is a party to the UNFCCC as a regional economic integration body, it does not possess an independent vote separate from its member states, so each EU member state retains its individual voting power.[619]

The EU's status as a regional economic integration body under the UNFCCC recognizes its member states' strong interdependence and shared responsibilities. By functioning as a cohesive entity in climate negotiations, the EU demonstrates its commitment to effective multilateralism and showcases the potential for regional collaborations in tackling complex global issues. Furthermore, the EU's participation as a collective entity expands its capacity to contribute meaningfully to climate discussions. The EU member states have diverse socio-economic profiles, energy mixes, and emission reduction targets. By coordinating their positions and resources, the EU promotes ambitious climate policies and offers developing nations substantial financial and technical support.

The EU's stance as a unified entity also enables it to play a pivotal role in encouraging other major economies to enhance their climate commitments. Its

[619] "Party Groupings".

ambitious climate targets and leading actions set a precedent for climate ambition, inspiring other countries to step up their efforts to combat climate change. Moreover, the EU's climate negotiations approach fosters collaboration and consensus-building, which are essential for forging global climate agreements. The EU emphasizes the significance of collective action and shared responsibility in addressing a planetary challenge by engaging in inclusive and transparent dialogue.

Ultimately, the EU’s role in the UNFCCC meetings demonstrates the power of unity and cooperation among its member states. The EU increases its influence in international climate negotiations by harmonizing their positions and speaking with a unified voice. While the EU functions as a regional economic integration body, it operates on the principle of consensus among its 27 member states. This collaborative approach reinforces the EU's commitment to collective action and underscores the importance of multilateral efforts in combating the global threat of climate change. Through its active involvement in climate negotiations, the EU remains a catalyst in driving climate ambition and inspiring positive change on a global scale.

The interaction between Germany and the EU in UNFCCC negotiations illustrates the principles of neoliberal institutionalism, particularly regarding how structured institutional frameworks can improve cooperation and policy efficiency. The EU shows how regional economic integration institutions can assist states in addressing collective action challenges through the establishment of clear rules, coordination of positions, and the creation of frameworks for the exchange of information. The EU's rotating presidency and internal consultation processes establish institutionalized channels that enable member states, such as Germany, to consolidate their interests and articulate unified positions, thereby enhancing their collective influence in global climate negotiations.

According to the theory, Germany prefers to interact mainly through the EU rather than taking independent stances because these arrangements create predictable patterns of interaction, lower uncertainty, and make it possible to pursue climate goals more successfully. In this realm, the EU functions as a bridging institution

between national and global climate governance, demonstrating neoliberal institutionalism's focus on the ability of institutional frameworks to promote cooperation across various governance levels, allowing states to achieve both individual and collective gains.

In COP 1, Germany emphasized the urgent need for rapid emission reduction by developed and developing states. In addition, beyond 2000, delegates demanded more extensive and detailed emission reduction commitments and objectives. Also, Germany called for emission stability and stated its target of reducing GHGs, expressed in CO2 equivalents, by 2005. In the end, developed nations agreed that the present pledges made by Annex I parties were insufficient.[620] At COP 2, the EU emphasized that identifying technological requirements should take priority.[621] In COP 3, developed and developing states called for enforceable and realistic objectives and funds to support technology transfer and incorporate sustainable development into developing countries. Also, the EU attracted attention to the IPCC results, showing that both developed and developing nations would need to take measures to reduce emissions significantly.[622]

At COP 4, the EU stated that all OECD nations should have legally enforceable goals. Moreover, during the consultations on Annex I parties' second national communications, Norway, along with the EU, Australia, the United States, and Canada, declared that the national communications and their reviews were critical to the Convention process.[623] Also, addressing a high-level event, speakers from the EU, the Gambia, Japan, Sweden, Syria, Croatia, New Zealand, Russian Federation, Egypt, Nepal, Spain, Ghana, and the G-77/China emphasized that developed nations must take the initiative to stop global warming, domestic action must be the primary

[620] "Summary of the First Conference of the Parties for the Framework Convention on Climate Change: 28 March-7 April 1995", pp.4-8.

[621] "Summary of the Second Conference of the Parties for the Framework Convention on Climate Change: 8-19 July 1996", p.4.

[622] "Summary of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997", pp.6-13.

[623] "Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change: 2-13 November 1998", pp.6-7.

method of fulfilling pledges to combat climate change, and flexibility mechanisms must be used in combination with strict rules of compliance.[624]

In COP 5, Germany pushed donor nations to contribute the funds necessary to keep the GEF operating. Also, the EU and Mongolia suggested that Annex I parties submit a separate report and include a summary based on general reporting standards in their national communications. In the end, the COP urged Annex I parties to submit a thorough report on their systematic observation-related measures and adopted both the addendum containing the guidelines and the draft decision related to Part II of the guidelines. Regarding domestic action, the EU emphasized that developed nations must take the lead in lowering their GHG emissions.[625] At COP 6, France, speaking on behalf of the EU, emphasized that meeting domestic commitments should be the primary objective of developed country compliance.[626] At COP 7, the EU emphasized the connections between the processes for developing national communications and NAPAs.[627]

In COP 8, Germany indicated that ignoring climate change would result in financial difficulties. In terms of future activities, the country stated that it would agree to a 40% reduction in GHG emissions from 1990 levels by 2020, provided other developed nations agreed to additional reductions, and the EU agreed to a 30% reduction in emissions.[628] At COP 9, Italy, speaking on behalf of the EU, stressed that developed nations must make more efforts while developing nations must also take measures in this direction. In addition, Ireland, speaking on behalf of the EU, emphasized the necessity of separating economic development and emissions,

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[624] "Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change: 2-13 November 1998", p.11.

[625] "Summary of the Fifth Conference of the Parties to the Framework Convention on Climate Change: 25 October- 5 November 1999", pp.3-13.

[626] "Summary of the Sixth Conference of the Parties to the Framework Convention on Climate Change: 13-25 November 2000", p.3.

[627] "Summary of the Seventh Conference of the Parties to the UN Framework Convention on Climate Change: 29 October- 10 November 2001", p.9.

[628] "Summary of the Eighth Conference of the Parties to the UN Framework Convention on Climate Change: 23 October- 1 November 2002", p.12.

claimed that renewables were a priority, and indicated that technology transfer could take place on both a South-South and a North-South basis.[629] In COP 10, the EU declared that over $30 million had been pledged as a consequence of a recent gathering of potential SCCF contributors.[630] At COP 11, Saudi Arabia prioritized adaptation to response initiatives, while Canada, the EU, and many others underscored the need to bring together experts and practitioners and foster long-term cooperation.[631]

In COP 12, Germany stated that it would be willing to lower its emissions by 40% by 2020 if the EU could reduce emissions by 30% by 2020 compared to 1990.[632] At COP 13, Portugal indicated on behalf of the EU that the EU was firmly convinced of the importance of expanding international collaboration to promote the rapid transfer of ecologically sound technologies.[633] In COP 14, the EU and others called for simplifying the CDM processes and encouraging work on methods for Africa, the LDCs, and the SIDS.[634] Besides, South Africa and the EU agreed on a country-led strategy and programmatic funding.[635] At COP 15, the EU emphasized the need for €100 billion in yearly investment by 2020 to support adaptation, mitigation, REDD+, technology, and capacity building. The Union recognized the need for €5-7 billion in quick-start funds for prompt action.[636]

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[629] "Summary of the Ninth Conference of the Parties to the UN Framework Convention on Climate Change: 1-12 December 2003", pp.14-15.

[630] "Summary of the Tenth Conference of the Parties to the UN Framework Convention on Climate Change: 6-18 December 2004", p.9.

[631] "Summary of the Eleventh Conference of the Parties to the UN Framework Convention on Climate Change and First Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: 28 November- 10 December 2005", p.5.

[632] "Summary of the Twelfth Conference of the Parties to the UN Framework Convention on Climate Change and Second Meeting of the Parties to the Kyoto Protocol: 6-17 November 2006", p.17.

[633] "Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007", p.14.

[634] "Summary of the Fourteenth Conference of Parties to the UN Framework Convention on Climate Change and Fourth Meeting of Parties to the Kyoto Protocol: 1-12 December 2008", p.8.

[635] "Summary of the Fourteenth Conference of Parties to the UN Framework Convention on Climate Change and Fourth Meeting of Parties to the Kyoto Protocol: 1-12 December 2008", p.14.

[636] "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009", p.3.

In COP 16, the EU suggested that the GEF should pursue an equitable approach to mitigation and adaptation technologies.[637] At COP 17, the Union restated its promise to mobilize $100 billion annually by 2020. Moreover, the EU backed a multilateral, rules-based, legally enforceable convention rather than voluntary pledges.[638] In COP 18, the EU emphasized the need to concentrate on mitigation activities in addition to those currently in place and transparency on a complementary international cooperation initiative.[639] At COP 19, the United States, the EU, and Switzerland declared that the IPRs were not the fundamental obstacle to technology transfer. The Union further stated that the technological framework should be the technological component beyond 2020, emphasizing the relevance of enabling environments.[640] In COP 20, the EU emphasized the need for openness, quantifiability, and comparable nature of the INDC reporting. Furthermore, the EU emphasized that capacity building ought to be accessible to all parties, not only developing countries, and urged for upgrading and strengthening current capacity building procedures and structures under the Convention and the Kyoto Protocol.[641]

At COP 21, the EU, Colombia for the AILAC, the United States, and others backed a common framework with customization in reporting timing and scope, as well as support for developing states. Moreover, the EU praised the historic accord as a milestone that would give security and stability and highlighted the need for tangible steps. The Union also recognized the formation of the High Ambition Coalition and stated that the EU would raise financial support beginning in 2020 and make it more predictable.[642] In COP 22, the EU called for investigating ways to lower monitoring costs by extending the use of structured CDM projects.[643] At COP 23, the EU,

[637] "Summary of the Cancun Climate Change Conference: 29 November – 11 December 2010", p.23.

[638] "Summary of the Durban Climate Change Conference: 28 November - 11 December 2011", pp.15-22.

[639] "Summary of the Doha Climate Change Conference: 26 November-8 December 2012", p.16.

[640] "Summary of the Warsaw Climate Change Conference: 11-23 November 2013", p.11.

[641] "Summary of the Lima Climate Change Conference: 1-14 December 2014", pp.28-39.

[642] "Summary of the Paris Climate Change Conference: 29 November-13 December 2015", pp.8-12.

[643] "Summary of the Marrakech Climate Change Conference: 7-19 November 2016", p.13.

Switzerland, and Canada intended to increase climate funding to the $100 billion target by 2020. Besides, the EU emphasized the importance of adopting a gender action plan and launching an initiative for local communities and indigenous peoples.[644]

In COP 24, the EU recognized a balanced and durable decision that made the Paris Agreement operational, emphasizing GST as the Paris Agreement's core innovation. In addition, the Union urged parties to incorporate the Talanoa Dialogue outcomes into their national policies and long-term objectives.[645] At COP 25, the United States, the EU, Costa Rica for the AILAC, Bhutan for the LDCs, Belize for the AOSIS, Australia, Canada, Japan, and Norway supported keeping the SBSTA operational.[646]

At COP 26, German Chancellor Angela Merkel recognized the developed country's obligation to take the lead on climate action. She reassured developed nations that the $100 billion objective would be met by 2023 and Germany would raise its climate funding to €6 billion annually by 2025. She also emphasized the need for carbon pricing.[647] In addition, the EU declared that it would push for an ambitious result that promotes action far before 2030. The Union underlined improved transparency framework arrangements and a consistent time schedule for all nations' NDCs.[648] In COP 27, the EU voiced dissatisfaction with the failure to reach a consensus on the phase-out of fossil fuels, despite the backing of more than 80 nations, and criticized the adopted phrasing for not doing enough to close the widening gap between climate science and policy.[649]

At COP 28, in the closing event, Germany highlighted the outcomes as a beginning that emphasized the need for international collaboration to shift away from fossil

[644] "Summary of the Fiji / Bonn Climate Change Conference: 6-17 November 2017", pp.6-17.

[645] "Summary of the Katowice Climate Change Conference: 2-15 December 2018", p.30.

[646] "Summary of the Chile/Madrid Climate Change Conference: 2-15 December 2019", p.14.

[647] "Glasgow Climate Change Conference: 31 October -13 November 2021", p.5

[648] "Glasgow Climate Change Conference: 31 October -13 November 2021", p.3

[649] "Sharm El Sheikh Climate Change Conference: 6 -20 November 2022", p.29.

fuels and the importance of providing support and technology to vulnerable countries. Furthermore, during the climate finance negotiations, delegates reached a consensus on the significance of monitoring the achievement of the goal until 2027, taking into account the two-year delay in data availability. Developing countries expressed their disappointment at the failure to achieve the goal in 2021 and emphasized that the required funding amounts to trillions. Switzerland and the EU have stated that they have contributed fairly to climate finance. In addition, during the final session, the EU expressed satisfaction with the developments in Dubai, which indicate the start of the decline of fossil fuels. The EU emphasized its commitment to supporting countries while transitioning from fossil fuels for as long as necessary. Also, the EU acknowledged that prosperity within the limits of the planet is accessible to everyone and should be shared. As a member of the EU, Spain emphasized the importance of improving climate justice, especially for SIDS and LDCs and increasing the amount of funding dedicated to adaptation. [650]

7.9. Conclusion

In this chapter, Germany's climate policy framework and the country's position in the UNFCCC meetings as an EU member were presented. The climate policy framework was analyzed according to documents submitted to the UNFCCC. Specifically, Germany's NDCs, the BR, the Federal Climate Act, and the Climate Action Plan 2050 were considered. These documents presented Germany's climate change initiatives, ambitions, and policies.

The EU submitted the first NDC of Germany to the UNFCCC in 2016. According to the NDC, energy, IPPU, agriculture, waste, and LULUCF sectors were covered. In the NDC, the EU and its member states agreed to a binding commitment of at least 40% domestic reductions in GHG emissions by 2030 compared to 1990 levels. In the updated NDC, the EU and its member states pledged to legally enforceable goals to cut domestic GHG emissions by at least 55% by 2030 compared to 1990. The updated NDC covered energy, IPPU, agriculture, waste, and LULUCF sectors in the

[650] "Summary of the 2023 Dubai Climate Change Conference:30 November – 13 December 2023", pp.15-26.

first NDC. Moreover, in the fifth BR to the UNFCCC, national circumstances, inventories, and actions of Germany were presented. The report was submitted by the country in 2023 and includes support provided to other countries by Germany regarding finance, capacity building, and technology transfer. In addition, Germany's climate-protection strategies were presented in light of the related legislative, political, and socioeconomic settings. Among them, the Climate Change Act and the Climate Action Plan 2050 were given special attention.

Germany committed to net GHG neutrality by 2045 through its Climate Change Act. The Act sets ambitious targets for emissions reductions, requiring at least 65% reduction by 2030 and at least 88% reduction by 2040 compared to 1990 levels. To ensure progress, the Act establishes maximum yearly emission limits for specific industries leading up to 2030. Approved in 2019, the comprehensive Climate Change Act comprises five parts, encompassing 15 sections and two Annexes, outlining the nation's determined approach to combat climate change and transition towards a sustainable future. Besides, the Climate Action Plan 2050 is a roadmap guiding Germany's efforts to align with the Paris Agreement and achieve its national climate objectives. It encompasses various crucial sectors, such as forests, trade and industry, agriculture, energy, buildings, transportation, and trade. Within these focus areas, the plan formulates guiding principles, sets standards, and provides relevant statistics, all aimed at propelling progress towards the ambitious climate objectives for the year 2050.

Throughout the UNFCCC meetings, spanning from COP 1 to COP 28, Germany has presented its stance and negotiations on climate issues. However, it is essential to emphasize that Germany's involvement in these gatherings was not as an individual entity but as part of the EU. As an EU member state, Germany's perspectives were represented collectively by the EU, which held a prominent and influential position. In the end, the climate issues that Germany and the EU surfaced in the UNFCCC meetings can be summarized mainly as the following: They emphasized the necessity of a rapid reduction of GHG emissions by developed and developing states, attracted attention to insufficient Annex I commitments, emphasized the necessity for identifying technological requirements, called for realistic and achievable climate

objectives both for developed and developing states, underlined the importance of national communications and their reviews, emphasized that developed nations take the initiative in global warming, urged for the creation of effective compliance mechanism, pushed donor countries to make contributions to the GEF, suggested Annex I countries submit a separate report, underlined the importance of international cooperation, underscored the importance of providing support and technology to developing countries and underlined climate justice.

They also underlined the importance of international cooperation to promote technology transfer, proposed country-led strategy and funding, promoted a balanced approach for mitigation and adaptation technologies, favored treaties rather than voluntary commitments, emphasized the need of concentrating on mitigation activities, declared that the IPRs were not the fundamental obstacle to technology transfer, stated their intention to increase climate funding, emphasized the importance of adopting a gender action plan and launching an initiative for local communities and indigenous peoples, underlined strengthening transparency framework and consistent time schedule for the NDCs, emphasized that meeting domestic commitments should be the primary objective of developed country compliance, called for simplifying CDM processes, highlighted the need for €100 billion to support adaptation, mitigation, REDD+, technology, and capacity building initiatives, restated its pledge to mobilize $100 billion annually by 2020, underlined the importance of transparency, quantifiability, and comparable nature of the INDC reporting and urged for strengthening current capacity building procedures and structures

The climate policy framework of Germany and its active engagement in the UNFCCC, as a member of the EU, display fundamental tenets of neoliberal institutionalism, which perceive international institutions as vital instruments for promoting cooperation and coordinating national initiatives with global objectives. Germany's commitment to significant emissions reductions shows the EU's unified approach to climate negotiations, highlighting the importance of institutions in establishing binding standards that ensure accountability among member states. In this regard, neoliberal institutionalism highlights the ability of institutions to build trust, create enforceable commitments, and offer organized frameworks.

CHAPTER 8

UNITED STATES

8.1. Introduction

This chapter investigates the climate policy framework of the United States, obtaining information from official records submitted to the UNFCCC, and evaluates how the country's stance has evolved across various UNFCCC meetings spanning from COP 1 to COP 28. As a significant global economic entity, the United States' approaches to climate policies, strategies, and positions wield considerable influence over the global battle against climate change. Examining the United States in this context provides invaluable insights into the complex hurdles of addressing emissions within a developed nation situated in the continent of the Americas.

When international climate agreements have been drafted, the United States has frequently been a key player. Its leadership in science, finance, and diplomatic skills has been crucial in establishing ambitious objectives, influencing the agenda, and mobilizing international support. Also, through its ambitious climate targets, robust legislative structures, and innovative technologies, the United States stands as a vital example of how a developed nation can confront emissions reduction and embrace sustainable practices. The nation's active role in sharing exemplary approaches, advocating for heightened objectives, and backing mechanisms for climate financing positions it as a pivotal contributor in fostering international collaboration and propelling the urgent mission of mitigating global-scale climate change impacts.

The United States' climate policy structure and dynamic position in the UNFCCC highlight the nuances that neoliberal institutionalism recognizes as critical to fostering international cooperation in the face of competing national interests. The

United States, as a major economic and political power, significantly influences global climate agendas and the formulation of international climate agreements. The country demonstrates how a developed state can utilize institutional frameworks to pursue ambitious climate objectives, effectively balancing national interests with international responsibilities through its expertise in science, finance, and diplomacy. This approach highlights the neoliberal institutionalist view that effective cooperation necessitates robust structures that enable interstate interaction.

The examination will center on the United States' NDCs, the BR, and the Climate Action Plan for 2050. This chapter thoroughly reviews these official documents and explores the United States' climate objectives, policies, and strategies. Moreover, it aims to illuminate the United States' viewpoints articulated during the UNFCCC meetings. These discussions involved the United States engaging both individually and collectively with the Umbrella Group. Consequently, the core aim of this chapter is to offer a comprehensive understanding of the United States' climate policy framework, priorities, and standpoint within climate deliberations alongside the Umbrella Group. Ultimately, this chapter unveils the nation's approach to combatting climate change and its valuable contributions to global climate negotiations.

8.2. Climate Policy Framework

The United States stated in its first NDC, submitted to the UNFCCC in 2016, that it planned to reach an economy-wide objective of decreasing GHG emissions by 26-28% below 2005 levels by 2025, with its greatest efforts to cut emissions by 28%. The sectors covered in the first NDC of the country include energy, IPPU, waste, agriculture, and LULUCF. It is also stated in the NDC that additional effort to meet the 2025 objective involves a significant increase in the existing rate of reductions in GHG emissions. Achieving the 2025 objective will need an additional 9-11% reduction in emissions over the 2020 target relative to the 2005 baseline and a significant acceleration of the 2005-2020 annual rate of decline to 2.3-2.8% per year or roughly doubling.[651]

[651] "United States of America First NDC". United Nations Framework Convention on Climate Change. September 3, 2016. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/U.S.A.%20First%20NDC%20Submission.pdf ,pp.1-3.

In the country's updated NDC, submitted in 2021, the United States established a broad economic goal of lowering net GHG emissions by 50-52% below 2005 levels by 2030. The sectors covered in the country's NDC include energy, IPPU, waste, agriculture, and LULUCF.[652] According to preliminary projections stated in the updated NDC, the United States reached and exceeded its 2020 target of net economy-wide emissions cuts in the range of 17% below 2005 levels and is on a path to achieve emissions cuts in the range of 26-28% below 2005 levels in 2025. The 2030 aim indicates enhanced ambition, made attainable in part by technological breakthroughs and market reactions.[653]

The United States' BR 5, submitted to the UNFCCC in 2022, highlights several policies and strategies that will help the country meet its NDC objective of reducing economy-wide net GHG emissions. The document outlined the United States' national situation, inventory, and activities. It represents not only federal government initiatives but also those of diverse stakeholders who are taking action, raising awareness, and promoting cutting-edge research and technology to improve global climate efforts.[654]

Total gross GHG emissions in the United States in 2020 were 5.981,4 MtCO2 equivalent. Total emissions have reduced by 7.3% between 1990 and 2020, after reaching a peak of 15.7% above 1990 levels in 2007. In addition, total emissions fell by 9% between 2019 and 2020, which is 590,4 MtCO2 equivalent. Besides, net emissions totaled 5.222,4 MtCO2 equivalent. Overall, net emissions fell 10.6% from 2019 to 2020, 21.4% from 2005 and 6.6% from 1990.[655] Moreover, between 1990

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652 "The United States of America Nationally Determined Contribution". United Nations Framework Convention on Climate Change. April 22, 2021. Retrieved from https://unfccc.int/sites/default/files/NDC/2022-06/United%20States%20NDC%20April%2021%202021%20Final.pdf ,pp.1-9.

653 "The United States of America Nationally Determined Contribution", p.2.

654 "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change". United Nations Framework Convention on Climate Change. December 29, 2022. Retrieved from https://unfccc.int/sites/default/files/resource/US%202022%20NC8-BR5.pdf ,p.1.

655 "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.49-53.

and 2020, total emissions from the energy sector declined by 486.5 MtCO2 equivalent (9.1%), total emissions in the waste sector decreased by 58.6 MtCO2 equivalent (27.4%), and total emissions in the LULUCF sector declined by 101.7 MtCO2 equivalent (13.4%). On the contrary, in the IPPU sector, total emissions increased by 30.2 MtCO2 equivalent (8.7%), while total emissions in the agriculture sector increased by 42.8 MtCO2 equivalent (7.8%).[656]

In 2021, United States President Biden signed an Executive Order on Tackling the Climate Crisis at Home and Abroad, putting climate concerns at the top of the United States's foreign policy and organizing the federal government's all abilities to decrease domestic emissions. This Executive Order established novel mechanisms and initiatives to accomplish these goals equitably, including the creation of the country's first-ever National Climate Task Force, which brings together federal agency officials in order to deploy an integrated approach to combating the climate crisis and achieving net-zero emissions by 2050, the Justice40 Initiative, which aims to deliver 40% of the total benefits of federal climate, clean energy, and related investments to communities in need and the Interagency Working Group on Coal and Power Plant Communities and the Economic Revitalization to guarantee that communities that have powered the country for centuries realize the benefits of job development, environmental cleaning, and other possibilities given by the emerging clean energy sector.[657]

Over the last two years, the government introduced new executive measures to reduce GHG emissions throughout sectors, including steps to accelerate clean energy projects, promote electric transportation, deal with super-pollutants, promote industrial carbon neutrality, decrease emissions and energy costs in buildings, improve carbon sequestration, boost innovation, and demonstrate a model through the Federal Sustainability Plan. Besides, President Biden signed two groundbreaking pieces of legislation, which combined with ongoing administrative efforts to

[656] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.75.

[657] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.91.

accomplish the nation's climate goals. The Bipartisan Infrastructure Law (BIL) invests fundamentally in the United States' clean energy economy, while the Inflation Reduction Act (IRA) offers around $370 billion for emission reductions, environmental justice, and climate resilience.[658]

Regarding policymaking and implementation, the federal government of the United States implements various policies and strategies to facilitate GHG emission reductions, and the federal government controls significant GHG emission reduction mechanisms. In addition to federal activities, non-federal governments such as state, municipal, tribal, and territory governments are adopting various policies and strategies to decrease GHG emissions. Bottom-up approaches are fundamental in places where the federal government has limited authority.[659] Hence, both federal and non-federal authorities develop and carry out initiatives to combat climate change.

In the energy sector, the Biden-Harris administration established a goal of achieving 100% carbon-free electricity by 2035, which minimizes emissions from power plants and assists in decarbonizing other sectors with greater end-users, such as transportation, buildings, and industries operating on clean electricity. By 2025, the United States intends to allow at least 25 GW of solar, onshore wind, and geothermal energy on public lands, as well as community solar systems capable of powering the equivalent of five million households and saving $1 billion in energy costs. The administration also established the Energy Earthshots Initiative to accelerate and lower the prices of sustainable energy technologies such as clean hydrogen, long-duration storage, upgraded geothermal systems, and floating offshore wind.[660]

Moreover, federal authority initiatives include the following critical activities in the energy sector: leading on federal lands, introducing an American offshore wind

[658] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.92-94.

[659] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.95-96.

[660] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.99.

sector, funding clean energy, promoting clean energy for farmers and rural small enterprises, promoting clean energy across rural utilities, and expanding the American market for clean energy. In addition, non-federal entities also implemented the following programs: state renewable portfolio guidelines and clean energy standards, state, local, and utility incentives for clean power, and regional GHG initiatives.[661]

Building sector initiatives throughout federal agencies include a number of the subset of significant programs: increasing energy efficiency criteria for devices and equipment, establishing strong building energy rules, assisting consumers and businesses in choosing efficient alternatives, promoting residence efficiency improvements, making investments in the weatherization of low-income residences, increasing energy efficiency in rural neighborhoods, lowering emissions across the federally supported residence, encouraging voluntary leadership by using smarter buildings and promoting technology for building decarbonization. In addition, non-federal bodies also put in place the following initiatives: building performance guidelines, utility rules, and heat pumps.[662]

In the transportation sector, the Biden administration initiated important new programs to accelerate the decarbonization of the transportation industry. President Biden signed an Executive Order on Strengthening American Leadership in Clean Cars and Trucks in 2021, establishing a national target of 50% zero-emission vehicle sales in new passenger cars and light trucks by 2030. The American Battery Materials Initiative of the Obama administration tried to enhance crucial mineral supply networks for electric cars and other purposes. The administration also released the United States Aviation Climate Action Plan, which outlines an integrated approach for achieving a net-zero aviation industry by 2050, and launched the Sustainable Aviation Fuel Grand Challenge, which aims to reduce costs and

[661] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.99-103.

[662] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.104-109.

increase the manufacturing of sustainable aviation fuels by 2030, with a goal of 3 billion gallons per year.[663]

Transportation sector programs across federal governments include the following key activities: establishing standards for low-emission and fuel-efficient cars, trucks, and heavy-duty vehicles, financing zero-emission vehicle structures and manufacturing, promoting transit-oriented development, assisting states in reducing transportation emissions, addressing aviation emissions, and developing biofuel infrastructure. Furthermore, non-federal authorities implemented the following initiatives: low-emission and zero-emission vehicle rules, low-carbon fuel regulations, and climate mayors EV buying collaboration.[664]

In the IPPU sector, the Biden-Harris administration has taken significant steps toward reducing emissions, including the launching of the Federal Buy Clean Initiative for buying low-carbon construction goods, new guidance on sustainable placement of the CCUS technologies, and a pledge for negotiating the world's first emissions-based sectoral agreement on steel and aluminum trade with the EU. The White House also listed industrial decarbonization as one of the top five innovation objectives to achieve net-zero emissions by 2050. The administration's Industrial Decarbonization Roadmap sets out critical approaches to decrease industrial emissions and gives businesses and governments a structured research, development, and demonstration agenda to guide future efforts.[665] Besides, the IPPU activities across federal institutions include the following subset of significant programs: federal purchase of low-carbon steel, cement, and other materials, advancement of next-generation clean manufacturing, promotion of voluntary leadership, and acceleration of innovation on essential technologies. Non-federal agencies have also established purchase clean initiatives.[666]

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[663] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.109.

[664] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.110-114.

[665] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.114-115.

[666] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.115-117.

In the agriculture sector, the Biden-Harris administration initiated new measures to help agricultural farmers in the United States advance environmental solutions. For example, in accordance with President Biden's Executive Order on Tackling the Climate Crisis at Home and Abroad, the United States Department of Agriculture (USDA) formed the Climate-Smart Agriculture and the Forestry Strategy to achieve quantifiable emissions reductions and carbon sequestration by safeguarding actions, source sustainable bio-products, and fuels, and reduce wildfire risk intensified by climate change.[667] Besides, key federal initiatives in the agriculture sector promote markets for climate-smart products, encourage climate-smart farming practices, and lower methane emissions from agricultural production. Non-federal organizations also undertaken healthy soil projects.[668]

In the LULUCF sector, the Biden-Harris administration's significant initiatives include the America the Beautiful program, which aims to conserve and restore 30% of the United States' lands and waters by 2030, utilizing the support of locally led initiatives. The administration is building the American Conservation and Stewardship Atlas to track the success of conservation and restoration activities across the country. President Biden issued an Executive Order on Strengthening the Nation's Forests, Communities, and Local Economies in 2022, leading institutions to protect mature and aged forests on federal lands, increase support for forest regeneration partnerships, and broaden the use of nature-based climate initiatives.[669]

Moreover, among the important continuing initiatives carried out by federal institutions in this sector are the advancement of sensitive lands protection, promotion of governance of public and private forests, measurement and monitoring of the carbon sink, and encouragement for nature-based solutions. Non-federal

[667] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.122.

[668] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.122-123.

[669] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.124-125.

entities have also launched projects such as tribal carbon sequestration and Hawai'i 30x30 initiatives.[670]

In the waste sector, reducing landfill emissions is thus a key component of the United States' Methane Emissions Reduction Action Plan. The Environmental Protection Agency (EPA) adopted new emissions rules and recommendations for new and existing municipal solid waste dumps in 2016. Under these standards, new, modified, and existing landfills must collect and manage landfill gas at emission levels about a third lower than previously required. Furthermore, in 2021, the EPA completed a new federal plan establishing modified standards for landfills in areas lacking a state or tribal execution plan, as well as guaranteeing that existing large municipal landfills in the United States have decreased methane emissions substantially. Moreover, the EPA also manages the Landfill Methane Outreach Program, which is a voluntary project that works in virtually all states and territories to assist landfill operators with recovering and good use of waste biogas for energy usage. In addition, the EPA established the National Recycling Strategy in 2021. Furthermore, non-federal entities' primary efforts include lowering methane emissions from landfill trash, as well as food loss and waste 2030 champions.[671]

8.3. Finance

The United States pledged $3.34 billion in fiscal years 2019 and 2020 to assist developing nations in mitigating and adapting to the severe consequences of climate change. Financial assistance was given through bilateral and multilateral channels. In fiscal year 2019-2020, the United States pledged more than $3.07 billion in bilateral climate funding to its developing-country partners. This funding came in three forms: grant-based bilateral climate funding, development financing, and export credit. Besides, in the same fiscal year, the United States pledged $274.3 million to multilateral climate change funding, which covers funds for the GEF.[672] In the same

[670] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.125-127.

[671] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.128-129.

[672] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.187-189.

fiscal year, the country provided around $2,86 billion to multilateral financial institutions and around $90 million to specialized UN bodies.[673]

The United States employs a variety of financial tools and policies to raise climate funding through various channels. The United States provided climate finance in the fiscal year 2019-2020 mostly in the form of grants ($1.86 billion), concessional and market-rate loans ($1.36 billion), loan guarantees ($73.9 million), and insurance products ($51.9 million).[674] Among climate funding in the 2019-2020 fiscal year, approximately 14.6% of funding was directed toward Asia, 59.1% toward Africa, 12.1% toward Latin America and the Caribbean, 9.3% toward global or multi-regional programs, and the rest was put toward developing nations in Europe and the Middle East. Moreover, climate financing in the United States supports efforts across three major pillars: adaptation, renewable energy, and sustainable scenes.[675]

The United States is committed to assisting vulnerable nations in adapting to climate change and strengthening their communities and economies. In the fiscal year 2019-2020, the United States invested $308 million in actions that increase climate adaptability in developing nations. The United States emphasized climate adaptation support for nations, regions, and populations more susceptible to climate change, focusing on the SIDS and the LDCs, particularly in Sub-Saharan Africa. The United States supports vulnerable nations in preparing for and adapting to growing climate- and weather-related threats by boosting resilience in food security, water, coastal management, and healthcare sectors.[676] The country provided climate finance through its programs.

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[673] "United States of America: Fifth Biennial Reporting Common Tabular Format (BR-CTF)". United Nations Framework Convention on Climate Change. June 26, 2023. Retrieved from https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Funfccc.int%2Fsites%2Fdefault%2Ffiles%2Fresource%2Fusa_2022_v4.0.xlsx&wdOrigin=BROWSELINK

[674] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.189-190.

[675] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.190-191.

[676] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.192.

The United States' assistance helps developing nations enhance their NAP procedures. The Private Investment for Enhanced Resilience (PIER) program encourages private-sector investments in countries such as Bangladesh, Ghana, Guyana, Indonesia, Mozambique, Peru, Tanzania, and Vietnam to increase resilience to climate change. The PIER assists in the creation and execution of the NAPs by collaborating with for-profit enterprises to promote climate change resilience by means of strategic investments in climate risk-reducing goods, services, and infrastructure.[677] Besides, the United States Agency for International Development (USAID) Climate Ready assists the Pacific Island countries in becoming more resilient by preparing and executing adaptation policies, gaining access to larger amounts of funding from international adaptation funds, and enhancing skills and structures to coordinate better and track adaptation initiatives.[678]

The Development Finance Corporation provided a $100 million investment guarantee in 2020 to support Water Equity's Global Access Fund, which would lend to microfinance institutions serving low-income populations, particularly women, throughout East Asia, Latin America, South Asia, and Sub-Saharan Africa. The downstream loans would support the SMEs in making water-related investments.[679] Moreover, the United States allocated $947.8 million in the 2019-2020 fiscal year to subsidize renewable energy efforts in developing countries. This climate aid targeted nations and industries with considerable long-term emission reduction potential, as well as those with the ability to show leadership in sustained, large-scale clean energy implementation. Regarding sectoral coverage, clean energy comprises renewable energy and energy efficiency.[680] Furthermore, through the Low Emission Development Strategies Global Partnership (LEDS GP), the United States supported initiatives to identify and pursue nation-driven, low-carbon development plans. The

[677] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.192-193.

[678] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.193.

[679] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.194.

[680] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.194.

LEDS GP is a fundamental international initiative for improving technical development in low-emission approaches in critical industries.[681]

In the fiscal year 2019-2020, the United States pledged $327.1 million to assist developing countries in preserving and recovering carbon-rich ecosystems, improving agricultural practices, improving the planning of land uses, strengthen monitoring capability, attract investment to advance forest and climate targets, and improve the structures that support these efforts. The United States emphasized investments with high mitigation potential, countries willing to undertake massive initiatives to lower emissions from deforestation, forest degradation, and other land-use initiatives, and the potential for complementary investments in monitoring, reporting, and validating forestry coverage and GHG emission reductions.[682]

Moreover, the United States has continued to assist countries in gaining access to forest funding through REDD+ and results-oriented payments, including carbon markets. The Offsetting Emissions Through Sustainable Landscapes (ONE-SL) and the Support Hub for Forest Finance and Landscapes Engagement (SHuFFLE) programs provided decision-making tools and direct technical assistance to nations seeking the REDD+ execution.[683]

In the end, apart from international and regional organizations, the United States provided support for clean energy projects in countries namely Brazil, Somalia, Honduras, Pakistan, Senegal, Argentina, Chad, Egypt, Haiti, India, Kenya, Malawi, Tanzania, Zambia, Bangladesh, Cambodia, Indonesia, Philippines, Vietnam, Colombia, Mexico, Peru, Burma, Kazakhstan, Laos, Tajikistan, Sri Lanka, Armenia, Bosnia and Herzegovina, Georgia, Kosovo, Serbia, Ukraine, Dominican Republic, Jamaica, Ethiopia, Madagascar, Niger, Nigeria, Rwanda, Uganda, Zimbabwe, Maldives, Nepal, Moldova, Guatemala, Honduras, Liberia, Peru, Thailand, Algeria,

[681] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.195.

[682] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.197.

[683] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.197.

Palau, Micronesia, Marshall Islands, Cote D'Ivoire, Mali, El Salvador, Mozambique, Congo, Lebanon, Kosovo, Solomon Islands, Ecuador, Uzbekistan, Georgia, Macedonia, Turkey, Cameroon, Jordan, Papua New Guinea, Malaysia and Mongolia.[684]

8.4. Technology Transfer

It is stated in BR 5 that the United States encourages the development of technology that would assist other countries in decarbonization while connecting its clean energy politics and investments with its national industrial goal. This applies to technology that assists in reducing emissions from land use as well as technologies that assist in the adaptation and resistance to climate effects. To incentivize technological innovation and deployment, the United States supports voluntary and mutually agreed-upon knowledge transfer and fosters enabling conditions favorable to trade and investment in climate-related technologies, including intellectual property protection.[685]

Regarding technology transfer, in addition to support for global, Africa, and Southeast Asia, Colombia, India, and Kenya received assistance from the United States. The SERVIR program, in collaboration with the National Aeronautics and Space Administration, the USAID, and technical organizations worldwide, builds capacity in more than 50 countries by assisting partners in gaining access to and using geospatial technologies to effectively manage climate risks, improve food security, be prepared for and adapt to climate variation and change, and lower GHG emissions from the LULUCF. During the fiscal year 2019-2020, the SERVIR educated over 3000 persons and increased the capacity of over 200 institutions. Another global program is the SilvaCarbon, a whole-of-government technical collaboration initiative that leverages the expertise of multiple technical agencies in the government, NGOs, academia, and business. The SilvaCarbon and its partners

[684] "United States of America: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[685] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change",p.205.

collaborate with over 25 developing countries to strengthen their capacity for tracking and administering forest and terrestrial emissions.[686]

Apart from global programs, several African and Southeast Asian nations received technical help through the Clean and Advanced Technologies for Sustainable Landscapes (CTSL) program, which evaluates and executes advanced energy technologies to boost and scale up agricultural productivity. Moreover, the United States assisted Colombia in the design and execution of renewable energy tenders. The country assisted India in advancing energy efficiency, technological developments, and cost-efficient renewable energy deployments. Finally, Kenya received support through the Africa Groundwater Exploration and Assessment Program, which promoted groundwater exploration and evaluation, as well as the development of local ability to organize and handle groundwater resources under various climate change scenarios.[687]

8.5. Capacity Building

The United States provided capacity building support through various initiatives. These initiatives are international, regional, and country-specific. In addition to two international capacity building support, regional support was provided to South America. Additionally, country-specific support was given to South Africa and the Marshall Islands.[688]

The National Adaptation Planning Global Network (NAP-GN) assists developing nations in creating the capacity to fulfill their medium and long-term adaptation requirements, execute national adaptation plans, and figure out climate risks in order to preserve critical development sectors from climate change. The NAP-GN has offered direct technical assistance to over 50 nations and collaborated with over 150 countries and experts on national adaptation planning and implementation since its

[686] "United States of America: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[687] "United States of America: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

[688] "United States of America: Fifth Biennial Reporting Common Tabular Format (BR-CTF)".

launch in 2015. Besides, the USAID additionally assists national governments, regional institutions, and civil society groups in enhancing their resilience to the adverse effects of climate change. In this realm, USAID collaborated with the National Disaster Management Office to increase the Republic of the Marshall Islands' capabilities to plan for and react to emergencies.[689]

As a Power Africa-funded regional initiative, the Southern Africa Energy Program (SAEP) delivered technical support and capacity building to South Africa's renewable energy industry. Moreover, Amazonia Connect collaborated with government and private sector stakeholders in Peru, Brazil, and Colombia to prevent habitat loss and commodity-driven loss of forests in the Amazon rainforest.[690] Furthermore, under the Climate Fellows initiative, the United States Forest Service Program strengthens partner developing nations' capacity to evaluate, observe, and report on forest landscapes in terms of GHG inventories, governance of forests, and forest surveillance. Climate Fellows are technical specialists who work in government departments. They deliver long-term, comprehensive, and accountable technical support for forest inventory, monitoring, and reporting mechanisms.[691]

8.6. The Long-Term Strategy of the United States 2050

In 2016, the United States released its first Long-Term Strategy, which aimed to reduce net GHG emissions by 80-90% below 2005 levels by 2050. In 2021, the country proposed a new, ambitious aim of reaching net-zero emissions by 2050. According to it, the country aimed to decrease GHG emissions 26-28% below 2005 levels by 2025 and 50-52% below 2005 levels by 2030.[692] Numerous essential

[689] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.213.

[690] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", pp.213-214.

[691] "Eighth National Communication and Fifth Biennial Report of the United States of America to the United Nations Framework Convention on Climate Change", p.214.

[692] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050". The United States Department of State and the United States Executive Office of the President. October 30, 2021. Retrieved from https://unfccc.int/sites/default/files/resource/US-LongTermStrategy-2021.pdf ,pp.12-14.

aspects are promoting the United States' long-term emissions reduction pathway. It is stated in the document that the shift to a sustainable energy system has accelerated in recent years, owing to the decreasing costs of solar and wind technologies, federal and state laws, and consumer demand. Building on this accomplishment, the United States set a target of 100% renewable power by 2035, laying the groundwork for net-zero energy by 2050. The country also supports clean fuels such as carbon-free hydrogen and long-term biofuels.[693]

Moreover, the United States promotes the usage of efficient equipment and the incorporation of efficiency into new and existing buildings, as well as the use of sustainable alternative manufacturing techniques and the incorporation of efficiency into new and existing structures. The United States also pledged to take extensive and rapid domestic methane reduction initiatives and reduce global methane emissions by at least 30% by 2030, eliminating more than 0.2°C warming by 2050. Besides, the country is also committed to increasing soil carbon sinks and developing measures to achieve net-zero emissions.[694]

It is stated in the document that achieving the 2050 net-zero objective could be accomplished through a mix of five primary areas of action: energy efficiency, decarbonization of electricity, fuel switching and energy transitions, carbon sequestration through forests, soils, and CO2 removal technologies, and reduction of non-CO2 emissions.[695] Hence, the document underlines the importance of the energy sector in reaching net-zero emissions by 2050, and electricity, transportation, buildings, and industry are identified as the primary drivers of the energy sector transformation.[696]

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[693] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.18.

[694] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.18.

[695] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.22.

[696] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.25.

In the electricity sector, the United States established a target of achieving 100% carbon-free power by 2035, and this objective serves as an essential basis for the United States' Long-Term Strategy. For years, the power industry, which accounts for roughly a quarter of all GHG emissions in the United States, has been cutting CO2 emissions, with large shifts generated in part by rises in renewables and declines in coal-fired production.[697]

On the way to the 2035 objective of 100% clean power, it is stated that batteries and other technologies for storage could lower emissions by 70-90% by 2030. Also, solar and wind generation will continue to develop significantly until 2050, while current nuclear capacity stays operational and may rise in the 2030s and 2040s. Unabated fossil generation decreases while existing fossil-fueled facilities begin implementing carbon capture technologies. By 2050, it is pointed out that clean energy generation will offer zero-emission power to the rest of the economy, with all electricity contributing 15-42% of primary energy.[698]

The document states that investments in clean energy production are needed until the mid-century, while overall power generation rises to satisfy rising demand from other industries. Average annual total capacity increases without storage varies from 58 GW/yr. to 115 GW/yr.; from 2031 to 2040, they range from 54 GW/yr. to 167 GW/yr.; and from 2041 to 2050, they vary from 67 GW/yr. to 123 GW/yr. Storage capacity increases by an average of 0.4 GW/yr to 2.7 GW/yr from 2021 to 2030, 3 GW/yr to 40 GW/yr from 2031 to 2040, and 11 GW/yr to 64 GW/yr from 2041 to 2050. It is also underlined that new transfer, distribution, and storage networks are required to maintain and increase grid resilience for future zero-carbon power generation.[699]

In summary, since 2010, major renewable deployment has been driven by federal investment programs, tax subsidies, and regulatory initiatives, as well as state

[697] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.26.

[698] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.27.

[699] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.27.

initiatives, research and development, and market developments. Simultaneously, between 2010 and 2019, over 546 coal-fired power units shut down, totaling 102 GW of capacity, with another 17 GW projected for retirement by 2025. This resulted in a significant shift in power sources in the United States, with renewables currently accounting for greater generation than coal. Furthermore, the amount of coal and natural gas output has decreased in the recent decade, indicating the importance of renewable energy. However, the document underlines that one of the obstacles to meeting the 2035 and 2050 targets is the significant quantity of additional zero-emission capacities that must be installed yearly to accommodate a growing amount of clean power generation.[700]

The transportation sector has the greatest emissions, accounting for 29% of all emissions in the United States. To achieve net zero emissions by 2050, the document pointed out that the government has to make sure that zero-emission cars predominate new vehicle sales for the majority of vehicle types by the early 2030s, as well as infrastructure to support alternative means of transportation such as trains, motorcycles, and public transportation. Hence, the growing implementation of new transportation innovations and the promotion of electric vehicles are the critical components of the United States' Long-Term Transportation Strategy.[701]

In the buildings sector, households and businesses account for more than one-third of the CO2 emissions from the American energy system. Since 2005, CO2 emissions from buildings have decreased due to improvements in energy efficiency, decarbonization of the electrical sector, and a moderate trend toward electrification of end users. Effective electricity use for end purposes is the primary driver of lowering building emissions. Together with the decarbonization of electricity, these advances have the potential to reduce building industry emissions to near zero by 2050.[702]

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[700] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", p.28.

[701] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.30-31.

[702] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.31-32.

Moreover, building efficiency improvements decrease the sector's total demand for energy through a variety of different channels. Within this general reduction in energy demand, the percentage of electricity in final energy demand rises as end users electrify, from approximately 50% in 2020 to 90% or more by 2050. Pursuing several successful solutions assists in achieving the necessary swift reductions in emissions in buildings while also lowering the energy expenses for individuals and companies. There are three major sources of emissions reductions: technology advancements, such as environmental improvements, increased efficiency of electric final usage, and efficient electrification of both existing and new buildings.[703]

The industrial sector in the United States is responsible for around 23% of total GHG emissions and 30% of total energy system emissions. Mining, steel manufacture, cement manufacture, and manufacture of chemicals are among the energy-intensive and emissions-intensive sectors, accounting for over half of total industrial emissions. The document asserts that although many industrial operations are difficult to decarbonize, investments in sophisticated non-carbon fuels, energy-efficiency measures, and electrification can cut overall industrial sector CO2 emissions by 69-95% by 2050. A diversified range of options customized to the individual demands of each sector can enable the industrial energy transition to carbon neutrality at a suitable scale. Energy savings, material effectiveness, electrification, the use of low-carbon fuels and feedstocks, and the CCS are all significant approaches for carbon neutrality.[704]

Aside from the sectors stated above, non-CO2 GHGs account for 20% of the United States's share of global warming. Non-CO2 GHGs are exceptionally effective heat-trapping gases, with several having more immediate climatic implications than CO2 does. Methane (CH4), nitrous oxides (N2O), and fluorinated gases account for the significant non-CO2 GHG emissions in the United States. Land management, livestock, and energy production account for the highest share of emissions. To

[703] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.32-33.

[704] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.33-34.

achieve long-term reductions in non-CO2 emissions below present levels, novel or highly effective mitigation technologies and strategies must be developed. Furthermore, the drivers of non-CO2 emissions are numerous, necessitating the development of different approaches in each sub-sector and gas. Ultimately, meaningful long-term reductions in non-CO2 GHG emissions require considerable technology advancements and new or more efficient mitigation alternatives.[705]

It is emphasized in the document that the focus of the United States' strategy to attain net zero by 2050 concentrated on efficiency, electrification of final uses, decarbonization of the energy sector, and reduction in non-CO2 emissions as these are the most crucial drivers for decarbonizing the American economy. To reach net zero by 2050, the LULUCF is another crucial area for increasing natural carbon dioxide reduction and storage from the atmosphere. Since 1990, total emission reduction in the LULUCF sector has dropped by around 11%.[706]

Concerted, science-based action is required in the short term and over the following decades to achieve considerable land carbon benefits by 2050 and beyond. These activities aim to improve soil carbon sinks and guarantee that lands continue to provide a variety of other advantages, such as products, employment, environmental services, recreational and spiritual places, and biodiversity preservation. Ultimately, forests, agricultural areas, and bioenergy are the main targets of policies and initiatives. The document also highlights that in addition to the prospects of CO2 cutbacks in the LULUCF sector, innovative CO2 removal solutions such as biomass carbon elimination and storage, direct air capture and storage, improved mineralization, and ocean-based CDR might be deployed in the coming decades.[707]

At the end of the document, it is mentioned that the United States currently emits 11% of yearly global GHGs. Therefore, reducing emissions by 2050 will

[705] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.35-36.

[706] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.45-46.

[707] "The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050", pp.47-48.

significantly contribute to meeting agreed global climate objectives. While the fast development of 2050 objectives and long-term strategies is positive, promises to act by 2030 are equally essential. It is also underlined in the document that today is the time for all of the world's major economies to move quickly to reach dedicated 2030 NDC targets, as well as to create and explain strategies to attain aspirational 2050 net-zero goals.[708]

8.7. The United States in the UNFCCC Climate Change Conferences

Once the climate policy structure of the United States, as outlined in its submissions to the UNFCCC, is presented, it becomes crucial to explore the nation's stance and involvement in climate-related discussions throughout the UNFCCC meetings. This analysis seeks to elucidate how the United States approached various subjects in each COP session, shedding light on its support and opposition to specific matters considered.

Although its position has changed over time, the United States has been instrumental in forming global climate agreements. Citing economic reasons, the nation's departure from the Kyoto Protocol in 2001 marked a key turning point in the history of climate action. Given that the United States was one of the top emitters of GHG emissions globally, this departure represented a severe hit to global climate efforts. Nevertheless, the United States has also proven in COP meetings that it can guide global climate change cooperation. It played a significant role in the 2015 Paris Agreement negotiations, which set ambitious goals for cutting global GHG emissions. While the Trump administration pulled out of the Paris Agreement in 2020, the Biden administration returned in 2021, indicating a renewed commitment to climate action. These changes emphasize the United States' varying perspectives on climate agreements and their global implications.[709]

Furthermore, the United States has taken an active role in climate negotiations alongside a coalition known as the Umbrella Group during the COP assemblies. As one

[708] “The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050”, pp.55-56.

[709] "Paris Climate Agreement: Everything You Need to Know".

of the world's largest economies, top GHG emitters, and a historically influential actor in international affairs, the United States' active participation in these gatherings carries profound implications for shaping the direction of global climate policies, advancing innovative solutions, fostering cross-border collaboration, and reinforcing the urgency of collective action against the pressing challenge of climate change.

The Umbrella Group is a group of parties created after adopting the Kyoto Protocol. The Group comprises Australia, Canada, Iceland, Israel, Japan, New Zealand, Kazakhstan, Norway, Ukraine, and the United States. In 2023, the United Kingdom formally joined the coalition.[710] The group has historically shared common interests and positions on various climate-related issues and is not a formal negotiating bloc, as presented in Chapter 3. Instead, it is a looser affiliation of countries primarily consisting of industrialized and developed nations. These countries have similar economic, political, or environmental concerns that lead them to collaborate and present unified stances during climate negotiations. The group's influence and effectiveness in negotiations depend on its member countries' alignment and ability to coordinate their positions.

Moreover, the involvement of the United States in the UNFCCC climate change conferences illustrates the core values of neoliberal institutionalism, emphasizing the significance of international institutions in facilitating interaction among powerful nations with different priorities. The United States, as a member of the Umbrella Group, portrays how institutional frameworks facilitate interaction among countries within coalitions that address shared financial, political, or environmental concerns. Also, moving between supporting and withdrawing from major agreements such as the Kyoto Protocol and the Paris Agreement, the United States demonstrates how neoliberal institutionalism's dependence on adaptive, yet organized structures can cope with changes in national priorities while maintaining continuity of global climate governance.

In COP 1, developed nations, including the United States, affirmed that the present obligations for Annex I parties were insufficient, but not on how much they needed

[710] "Party Groupings".

to be enhanced. Furthermore, several nations advocated for more precise emission reduction goals and pledges beyond 2000. In addition, the United States indicated that it was committed to the present reduction targets and that the Conference ought to generate a mandate for negotiating an agreement.[711] At COP 2, the EU, the United States, Canada, Argentina, the Republic of Korea, Colombia, New Zealand, Bangladesh, Norway, Fiji, Uruguay, Mauritius, Japan, Benin, Switzerland, Myanmar, Bulgaria, Samoa, Micronesia, the Maldives, Niue, the Marshall Islands, and Costa Rica, accepted the SAR as the most extensive examination of the scientific evidence on climate change and considered it as a foundation. Moreover, Iran and the United States have pushed for the development of a technology transfer information center. Furthermore, the United States backed the formation of a legally enforceable agreement to reduce emissions.[712]

At COP 3, the United States Vice President Albert Gore Jr. restated the United States commitment to decrease emissions by 30% below forecast levels by 2010, as well as major parts of the United States proposal. He pledged enhanced United States flexibility in working toward a pledge with realistic objectives and deadlines, market systems, and major developing country participation.[713] Moreover, the United States stressed that commitments made by all parties must provide room for economic growth while safeguarding the environment. The United States also underlined that obligations in developing countries should be based on CBDR.[714]

In COP 4, the EU, Norway, and the United States requested clarification on various technical and administrative problems. Moreover, Japan, Canada, the United States, and Norway emphasized the necessity of focusing on flexibility mechanisms. Besides, Australia, the United States, and Hungary urged meaningful involvement

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[711] "Summary of the First Conference of the Parties for the Framework Convention on Climate Change: 28 March-7 April 1995", p.8.

[712] "Summary of the Second Conference of the Parties for the Framework Convention on Climate Change: 8-19 July 1996", pp.4-8.

[713] "Summary of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997", p.5.

[714] "Summary of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997", p.14.

and future voluntary pledges tailored to individual situations. Furthermore, several parties, including Denmark, Venezuela, Poland, Australia, France, the EU, and the United States, supported creating a cohesive, effective, and robust compliance framework.[715]

At COP 5, the United States urged that the mechanisms intended to be cost-effective, so that developing nations can engage proactively.[716] In COP 6, the United States government opposed the Protocol and stated that it was fatally defective since it would harm its economy and exclude developing countries from full participation. Hence, the United States withdrew from the negotiations.[717]

At COP 7, the Umbrella Group voiced concern about the relationship between compliance and eligibility for involvement in the CDM.[718] At COP 8, the United States emphasized economic development as the way to environmental improvement while cautioning against challenging objectives for developing nations.[719]

In COP 9, the United States stressed public-private collaboration and highlighted national efforts on carbon sequestration, hydrogen, and nuclear energy.[720] At COP 10, Australia, together with the United States, Canada, and the EU, and in opposition to the G-77/China and the AOSIS, called for addressing the problem of distinguishing direct human-induced effects from indirect and natural consequences of the LULUCF activities. In the end, the parties could not reach an agreement on

[715] "Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change: 2-13 November 1998", pp.7-12.

[716] "Summary of the Fifth Conference of the Parties to the Framework Convention on Climate Change: 25 October- 5 November 1999", p.12.

[717] "Summary of the Resumed Sixth Session of the Conference of the Parties to UN Framework Convention on Climate Change: 16-27 July 2001", pp.2-3.

[718] "Summary of the Seventh Conference of the Parties to the UN Framework Convention on Climate Change: 29 October- 10 November 2001", p.6.

[719] "Summary of the Eighth Conference of the Parties to the UN Framework Convention on Climate Change: 23 October- 1 November 2002", p.13.

[720] "Summary of the Ninth Conference of the Parties to the UN Framework Convention on Climate Change: 1-12 December 2003", p.15.

this issue.[721] In COP 11, Japan and the United States stressed the relevance of public-private partnerships regarding technology transfer.[722]

At COP 12, the United States emphasized the importance of better linking climate goals with more urgent socioeconomic goals in order to strengthen the coalition for action.[723] In COP 13, Australia, on behalf of the Umbrella Group, asked for an extensive global accord, including a long-term aspirational objective to which everyone could contribute.[724] At COP 14, the United States noted the necessity of examining various countries' national circumstances. In addition, the United States stressed that technology development and transfer should be addressed as part of a broader plan for mitigation and adaptation.[725] In COP 15, Australia, on behalf of the Umbrella Group, called for a deal with legally enforceable pledges from all major countries to achieve a 50% reduction in global emissions by 2050. The country also emphasized the importance of raising US$120 billion from public and private sources, including carbon markets, for vulnerable states and the LDCs.[726]

At COP 16, Australia, representing the Umbrella Group, emphasized that Cancun should assist in preparing a legally enforceable agreement that contains pledges from all major economies.[727] In COP 17, the United States pressed for a legally enforceable agreement that included pledges from all major economies. The nation indicated that the CBDR was a notion of expanding applications. In addition,

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[721] "Summary of the Tenth Conference of the Parties to the UN Framework Convention on Climate Change: 6-18 December 2004", p.4.

[722] "Summary of the Eleventh Conference of the Parties to the UN Framework Convention on Climate Change and First Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol: 28 November- 10 December 2005", p.4.

[723] "Summary of the Twelfth Conference of the Parties to the UN Framework Convention on Climate Change and Second Meeting of the Parties to the Kyoto Protocol: 6-17 November 2006", p.17.

[724] "Summary of the Thirteenth Conference of Parties to the UN Framework Convention on Climate Change and Third Meeting of Parties to the Kyoto Protocol: 3-15 December 2007", p.3.

[725] "Summary of the Fourteenth Conference of Parties to the UN Framework Convention on Climate Change and Fourth Meeting of Parties to the Kyoto Protocol: 1-12 December 2008", pp.13-14.

[726] "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009", p.27.

[727] "Summary of the Cancun Climate Change Conference: 29 November – 11 December 2010", p.8.

Australia, speaking on behalf of the Umbrella Group, advocated for a transition to a climate change structure that includes all major economies while considering nations' individual capacities.[728]

At COP 18, the Umbrella Group and Brazil advocated for a bottom-up strategy that involved and incentivized many stakeholders in thematic international and national action areas.[729] In COP 19, the United States and Canada underlined the IPRs as vital for innovation. The United States, the EU, and Switzerland have also argued that the IPRs were not the primary obstacle to technological transfer. Moreover, the United States supported strengthening existing entities established under the Convention to carry out capacity building activities.[730]

In COP 20, the United States, Norway, Canada, and the EU supported the widening of the focus of national adaptation planning procedures. Furthermore, Australia, Japan, and the United States backed a universal transparency system.[731] At COP 21, the EU, Colombia for the AILAC, the United States, and others backed a single framework with flexibility in reporting timing and depth, as well as assistance for developing nations.[732] In COP 22, the United States and New Zealand emphasized the importance of the private sector in assuring the GCF's operations.[733]

At COP 23, the United States favored observers and private sector participation in the SCF and the GEF.[734] In COP 24, the EU emphasized the need to point out the continual rise in climate financing flows, while the United States added that the assessment's results were the outcome of an extensive process and were endorsed by

[728] "Summary of the Durban Climate Change Conference: 28 November - 11 December 2011", pp.3-22.

[729] "Summary of the Doha Climate Change Conference: 26 November-8 December 2012", p.16.

[730] "Summary of the Warsaw Climate Change Conference: 11-23 November 2013", pp.11-12.

[731] "Summary of the Lima Climate Change Conference: 1-14 December 2014", pp.36-38.

[732] "Summary of the Paris Climate Change Conference: 29 November-13 December 2015", p.8.

[733] "Summary of the Marrakech Climate Change Conference: 7-19 November 2016", p.7.

[734] "Summary of the Fiji / Bonn Climate Change Conference: 6-17 November 2017", p.8

consensus by the SCF.[735] At COP 25, Australia, speaking for the Umbrella Group, emphasized the importance of Article 6 regulations in facilitating markets and increasing ambition.[736]

In COP 26, United States President Joseph Biden emphasized the desire to show that the United States was not just returning to the table but also leading by example. He published the United States' first long-term strategy to attain net zero emissions by 2050, as well as adaptive communication and participation in the AF. He estimated that the United States' climate financing would have quadrupled by 2024. He also announced the establishment of the Global Methane Pledge, in collaboration with the EU, in which over 70 nations promise to jointly reduce methane emissions by at least 30% from 2020 levels by 2030.[737] Moreover, Australia, speaking on behalf of the Umbrella Group, emphasized advancing adaptation efforts and improving action for feasible, locally led adaptation and resilience initiatives. In addition, Australia, representing the Umbrella Group, emphasized the essential role of finance in assisting developing countries' net zero transitions, as well as the need to align all funding sources with a course toward low-emissions and climate-resilient growth. The country stated the need to increase adaptation measures, including financial resources.[738]

At COP 27, the United States raised concerns about statistics in the financial section and emphasized that the donor base was not limited to developed nations.[739] In COP 28, the United States emphasized that the use of transitional fuels can only serve a temporary and limited role in order to align with the 1.5°C target. It also stated that the emphasis of abatement technology should be on sectors that are difficult to reduce. The country invited parties to join them in updating their long-term low-GHG development strategies, announcing that both China and the United States

[735] "Summary of the Katowice Climate Change Conference: 2-15 December 2018", p.21.

[736] "Summary of the Chile/Madrid Climate Change Conference: 2-15 December 2019", p.3.

[737] "Glasgow Climate Change Conference: 31 October -13 November 2021", p.5.

[738] "Glasgow Climate Change Conference: 31 October -13 November 2021", pp.3-37.

[739] "Sharm El Sheikh Climate Change Conference: 6 -20 November 2022", p.3.

would be doing so. In addition, Australia, as a member of the Umbrella Group, expressed support for the call to have NDCs aligned to limit global warming to 1.5°C. These NDCs should include emission targets that cover all sectors, gases, and categories of the economy.[740]

8.8. Conclusion

This chapter discussed the United States' climate policy structure, its stance on the issue, and its participation in the UNFCCC meetings, both on its own and through the Umbrella Group coalition. The climate policy framework is examined based on documents submitted to the UNFCCC. This includes a detailed analysis of the United States' NDCs, the BR, and the nation's 2050 Long-Term Strategy. These documents outline the United States' objectives, aspirations, and strategies concerning climate change.

The United States stated in its first NDC, presented to the UNFCCC in 2016, that it intended to achieve an economy-wide goal of reducing GHG emissions by 26-28% below 2005 levels by 2025, with the biggest efforts aimed at reducing emissions by 28%. Energy, IPPU, waste, agriculture, and LULUCF are among the sectors addressed in the country's first NDC. In the country's updated NDC, presented in 2021, the United States set a broad economic aim of reducing net GHG emissions by 50–22% below 2005 levels by 2030. In addition, the same sectors were covered in the updated NDC.

The United States presented its first Long-Term Strategy report in 2016, intending to reduce net GHG emissions by 80-90% below 2005 levels by 2050. In 2021, the country established a new, ambitious goal of attaining net-zero emissions by 2050. According to it, the nation sought to reduce GHG emissions by 26-28% below 2005 levels by 2025 and 50-52% below 2005 levels by 2030. According to the document, achieving the 2050 net-zero goal would require a combination of five primary areas of action: energy efficiency, decarbonization of electricity, fuel switching and energy

[740] "Summary of the 2023 Dubai Climate Change Conference: 30 November – 13 December 2023"., p.26.

transitions, carbon sequestration through forests, soils, and CO2 removal technologies, and non-CO2 emissions reduction.

In addition, this chapter provided an in-depth discussion about how the United States has positioned itself and engaged in climate negotiations from COP 1 to COP 28. The United States pursued climate-related negotiations both independently and as part of the Umbrella Group coalition. Consequently, this chapter highlighted the viewpoints and perspectives of the United States and the Umbrella Group. In the end, the climate issues that the United States and the Umbrella Group raised in the UNFCCC meetings can be summarized mainly as the following: They stated that SAR is the most extensive examination of scientific evidence, urged for the establishment of a technology transfer information center, backed the formation of a legally enforceable agreement, emphasized the necessity of deep emission reductions, underlined the importance of the principle of the CBDR, requested clarity on technical and administrative issues and emphasized the necessity of flexibility mechanisms and highlighted that pledges made by all parties must provide space for economic growth while safeguarding the environment.

Furthermore, they supported the development of an effective compliance framework, promoted the development of cost-effective mechanisms, supported economic development for environmental protection, pointed out public-private partnership, noted the necessity of examining national circumstances of countries, pushed for the legally enforceable agreement by all parties, argued that the IPRs were not the primary obstacle to technological transfer, supported global transparency framework, supported private sector involvement in the SCF and the GEF, attracted attention on the need for increasing adaptation measures, voiced concern about the relationship between compliance and eligibility for involvement in the CDM, stressed that technology development and transfer should be addressed as part of a broader plan for mitigation and adaptation, supported strengthening existing entities established under the Convention, backed widening the focus of national adaptation planning procedures, emphasized the importance of the private sector in assuring the GCF's operations, underscored the essential role of finance in assisting developing

countries' net zero transitions and invited parties in updating their long-term low-GHG development strategies.

Finally, the United States' approach to climate action within the UNFCCC framework highlights essential elements of neoliberal institutionalism, demonstrating how international organizations provide organized settings for negotiation among nations with varying priorities. Despite changes in the United States' position over time, its engagement illustrates the theory's assertion that institutions can adapt to political variability while preserving continuity in shared action. Hence, the United States shows how institutional structures facilitate coordinated action among major economies, utilizing multilateral frameworks to coordinate national interests with global responsibilities.

CHAPTER 9

CONCLUSION

9.1. Introduction

The thesis' scope includes a thorough assessment of the climate change policies, approaches, and positions taken by India, South Africa, Germany, and the United States at the UNFCCC meetings. The introduction chapter described the scope and objectives of the thesis, as well as the key research questions, argument, literature review, and methodology. The second chapter analyzed realism, liberalism, constructivism, and critical theories to determine the theoretical foundation of the dissertation. The next chapter explored the UNFCCC's historical history, the UNFCCC meetings, and the UNFCCC's institutional architecture, giving background for understanding the UNFCCC's bodies and coalitions, discussions, and decision-making procedures. The following chapter elaborated on the evolution of the UNFCCC COPs from 1995 to 2023.

In subsequent chapters, the thesis investigated India, South Africa, Germany, and the United States' climate change policies and approaches. These chapters examine each country's climate commitments, climate policy frameworks, and major climate change initiatives. The chapter also discussed these four nations' stances, approaches, and arguments in the UNFCCC negotiating processes. The chapter also examined countries’ negotiating positions on crucial issues on climate change to identify areas of convergence and divergence. Hence, this chapter presents a detailed synthesis and comparative analysis of NDCs, climate finance, technology transfer, and capacity building presented in each country chapter.

In an era defined by enormous global climate change issues, governments throughout the world have been driven to develop comprehensive policies and plans to confront

this significant problem. The global framework for collaboration and negotiation on climate action, represented by the UNFCCC meetings, serves as a critical venue for nations to consider and agree on activities to reduce and adapt to climate change. Under the UNFCCC, each country has a unique approach and diverse positioning in the UNFCCC meetings. Hence, this chapter compares NDCs and climate finance, technology transfer, and capacity building activities in India, South Africa, Germany, and the United States. There are several reasons for the importance of comparing these countries.

First, these countries represent a range of economic growth phases, geographical locations, and historical obligations, giving a rich canvas for examining how different socioeconomic situations impact climate policies and approaches. Second, their participation in the UNFCCC illustrates the complex interaction of developed and developing countries, giving insight into power relations, equality concerns, and joint efforts to confront an international crisis. Third, by examining institutional, legal, and policy frameworks, this chapter reveals the complicated processes by which nations operationalize their pledges, showing possible best practices and areas for development. Ultimately, comparing NDCs, financial transactions, technology transfer efforts, and capacity building initiatives is critical in determining how successfully these countries fulfill their obligations and support equitable climate outcomes.

In this chapter, India will be compared with South Africa, and Germany will be compared with the United States since socioeconomic conditions, historical obligations, and technological capacities differ. Hence, this chapter examines how states manage the complicated interplay between economic growth objectives and climate pledges by combining South Africa and India, two growing economies with developmental goals. Similarly, comparing Germany and the United States, two advanced economies with well-developed infrastructures, allows for a thorough examination of the effectiveness of well-developed climate laws as well as the role of innovation in advancing environmental practices. This approach demonstrates the similarities shared by nations at comparable stages of development and the subtle

approaches they use to combine national climate goals with global environmental obligations.

9.2. India-South Africa

9.2.1. Nationally Determined Contributions (NDCs)

India's and South Africa's NDCs emphasize their dedication to sustainable development, the need for technology transfer, and international funding to meet their climate targets and incorporate adaptation measures. While both countries share the general goal of combating climate change, their approaches reflect differences affected by their developmental stage, availability of resources, and specific challenges. India's diversified approach indicates the country's desire to combine economic expansion with environmentally friendly practices, whereas South Africa's segmented plan demonstrates a robust framework for handling adaptation and mitigation in harmony.

Secondly, India's NDC aims to reduce GDP emissions intensity by 33% to 35% from 2005 to 2030. South Africa's NDC, on the other hand, forecasts a range of GHG emissions between 2025 and 2030, representing the country's emission trajectory. Lastly, India's NDC prioritizes non-fossil fuel-based power, with a target of 40% cumulative capacity from these sources by 2030. South Africa's NDC does not expressly state a quantitative objective for energy transition; instead, it concentrates on adaptation measures.

The updated NDCs of India and South Africa demonstrate a common commitment to raising their climate aspirations. The countries modified their prior targets to reflect the changing urgency of combating climate change. Furthermore, both nations have incorporated unique initiatives to push forward their climate goals. Finally, both states further strengthened their commitments to reducing emissions.

Despite similarities, there are also differences between the revised NDCs of these countries. Firstly, India's updated NDC emphasizes incorporating basic activities

through the LIFE movement, emphasizing the significance of individual and community involvement. On the other hand, South Africa's updated NDC focuses on broad adaptation measures that include legal frameworks, geographic modeling, and sector-specific adaptation initiatives. Secondly, India's revised NDC emphasizes a sustainable energy transition by increasing the objective for non-fossil fuel energy capacity from 40% to 50%. By contrast, South Africa's revised NDC does not clearly indicate a comparable quantifiable objective for energy transition; instead, it focuses on adaptation and mitigation activities. Lastly, India's updated NDC gives a single, particular emission intensity reduction objective, while South Africa provides a variety of reduction goals for different time periods, allowing for greater flexibility.

9.2.2. Finance

Regarding climate finance, these countries have plenty of similarities and differences. Climate finance is provided to both India and South Africa through various channels, including bilateral channels, international funds, public funding, and, to a lesser extent, the private sector. Second, both governments identify the need to tackle adaptation and mitigation in their climate financing programs. They have calculated the funding requirements for various industries and climate change initiatives. Third, India and South Africa provide domestic funding for climate measures. They tailored specific programs and finances to meet this objective. Fourthly, international institutions such as the GEF, the GCF, the AF, and MDBs assist in funding climate change in both nations.

In terms of contrasts, India's anticipated financial requirements for climate efforts are significantly greater than South Africa's. India asserts the need for trillions of dollars, but South Africa's financial requirements were expressed in millions and billions of dollars. Second, India and South Africa had different numbers of states delivering bilateral financing. Third, India emphasized its reliance on local financing, which includes loans and grants. South Africa, on the other hand, mainly relied on grants, notably from bilateral sources, with loans accounting for a lesser amount of their climate finance. Finally, both countries allocated various funds to various areas and programs. India, for example, listed adaptation efforts in agriculture, forestry,

fisheries, and infrastructure, whereas South Africa emphasized initiatives related to energy efficiency, renewable energy, and waste management.

9.2.3. Technology Transfer

There are many parallels and contrasts between these nations regarding technology transfer. Both India and South Africa highlighted the significance of adapting climate technology to their distinct environmental and socioeconomic conditions on a local level. The countries realized that one-size-fits-all solutions to climate concerns were ineffective. Secondly, both nations identified and prioritized mitigation and adaptation technologies. They determined which technologies were essential to their respective industries and demands.

In terms of differences, the two countries' technology transfer requirements differ. South Africa stated that it required 19 technologies, whereas India needed 12. Second, while both nations evaluate diverse areas for technological adoption, their priorities differ. South Africa highlighted industry, waste, agriculture, biodiversity, forestry, fisheries, human settlements, and water, whereas India emphasized agriculture, forestry, water, and health. Third, while both nations recognized the obstacles of technology transfer, their approaches to tackling these issues differ. South Africa focused on legislative and regulatory directions, international collaboration, awareness building, training, technical standards, and cost efficiency, whereas India offered a database to track green technology patents and their level of commercialization.

9.2.4. Capacity Building

Regarding capacity building, India and South Africa have numerous similarities and differences. To successfully combat climate change, both India and South Africa realized the need for capacity building in various areas, including agriculture, forestry, fisheries, health, energy, and waste management. Second, both nations recognized the need to increase weather, climate, and disaster prediction capabilities, emphasizing boosting forecast precision and early warning systems. Third, both

India and South Africa stressed the necessity of international collaboration and knowledge-sharing in order to boost their capacity building efforts in climate change mitigation and adaptation. Finally, both countries launched government initiatives to build capacity, provide training, and raise awareness, focusing on incorporating climate variability into their respective sectors for long-term growth and development.

Regarding differences, there are geographical variances in the capacity building requirements of the two countries. India's capacity building requirements include addressing the particular issues of the Himalayan area, forecasting catastrophic weather occurrences, and energy management systems. On the other hand, South Africa's requirements are improving the technical capability for gathering GHG inventory, increasing the communication capacity of institutions, strengthening technical and institutional capabilities, increasing technical knowledge about mitigation measures, increasing national capacity to develop methods, processes, and approaches, and improving the technical capabilities to gather the data needed for reporting.

Secondly, South Africa emphasized the need for technical knowledge and institutional strengthening, while India focused more on international collaboration, energy management systems, weather forecasting, and climate services. Hence, the Indian approach demonstrates a greater commitment to international cooperation and research institutions, whereas South Africa focuses primarily on enhancing domestic technical capabilities for climate data and reporting mechanisms.

9.3. Germany-the United States

9.3.1. Nationally Determined Contributions (NDCs)

Regarding NDCs, both countries have considerable similarities and differences. Firstly, Germany and the United States included many common sectors in their NDCs, including energy, agriculture, waste, IPPU, and LULUCF. These sectors are critical to their GHG reduction goals. Secondly, both nations have long-term carbon

reduction objectives that extend beyond 2020. Germany's NDC stretches to 2030, with an initial objective of reducing emissions by 55% compared to 1990 levels, and the United States has determined a 2030 target of reducing emissions by 50-52% below 2005 levels. Lastly, both nations raised their aim to cut emissions in their revised NDCs compared to initial pledges. Germany increased its objective from 40% to at least 55%, while the United States increased its target from 26-28% below 2005 levels by 2025 to 50-52% below 2005 levels by 2030.

Despite similarities, there are also differences. Firstly, Germany's NDC established 1990 as the baseline year for carbon reductions, reflecting the country's historical emissions. The United States, on the other hand, adopted 2005 as the baseline year, which is more recent and reflects a distinct historical background. Secondly, Germany provided 2020 and 2030 goals, while the United States presented 2020, 2025, and 2030 goals. Thirdly, by the end of 2019, the EU and its member countries, including Germany, had already reduced emissions significantly. In contrast, the United States estimated that it was likely to achieve its 2020 objective of a 17% decrease below 2005 levels, and the country's 2025 aim would necessitate greater efforts. Lastly, as an EU member, Germany's NDC is consistent with EU climate policy and ambitions. The EU has a common legal structure and policy coordination. On the contrary, the United States' stance on climate policy differs across administrations.

9.3.2. Finance

Similarities and differences regarding finance are worth mentioning. Firstly, both Germany and the United States were committed to delivering climate funding to developing countries in order to assist countries in reducing GHG emissions and adapting to the effects of climate change. The countries acknowledge the significance of funding in tackling the global climate disaster. Secondly, both nations distributed climate financing through bilateral and multilateral channels. The countries formed direct bilateral ties with developing nations and contributed to international climate funds and organizations. Thirdly, both countries provided climate finance mostly through bilateral channels. Finally, both Germany and the

United States underlined the need to assist vulnerable regions and populations particularly impacted by climate change, such as the SIDS and the LDCs.

Besides similarities, there are also differences. Firstly, in the 2019-2020 fiscal year, Germany provided around $10.5 billion with bilateral and multilateral funding, while the United States delivered around $3.34 billion. Secondly, in its climate financing efforts, the United States provided support in three central pillars: adaptation, renewable energy, and a sustainable environment. Germany's key areas were stated in terms of adaptation measures, agricultural adaptation, food security, water management, and risk management instruments.

9.3.3. Technology Transfer

Besides NDCs, finance, and capacity building, it is essential to note the areas where the two countries converge and diverge in the field of technology transfer. Regarding similarities, climate technology is crucial to Germany's and the United States' international development initiatives. The countries desire to assist partner countries in overcoming climate change issues through technological solutions. Secondly, both nations prioritized technological support for specific areas such as energy efficiency, transportation, waste management, renewable energy, rural development, and smart cities. This sectoral focus represents a pragmatic approach to the implementation of climate technologies.

Apart from similarities, there are also several differences. Firstly, Germany's financial assistance for climate technologies is generally channeled through the BMZ, whereas the United States provided funds across various programs and institutions. Secondly, Germany assisted certain nations with technology transfer, including Albania, India, Senegal, Uzbekistan, China, Thailand, Mexico, and Colombia. The United States had a greater geographic reach, assisting areas such as Africa and Southeast Asia, as well as individual nations such as Colombia, India, and Kenya. Lastly, the United States was involved in a broader range of international programs, including the SERVIR, the SilvaCarbon, the CTSL, and the Africa Groundwater Research and Assessment Program. Germany, on the other hand,

delivered bilateral and project-based assistance to partner nations. Hence, the United States provided technology transfer support to more countries than Germany.

9.3.4. Capacity Building

Similarities and differences regarding capacity building are worth mentioning. Firstly, both Germany and the United States have participated in global efforts to combat climate change. The countries assisted partner nations all across the world in improving capacity building. Secondly, both countries worked with international organizations and partners to strengthen capacity in climate and sustainability-related domains. The countries collaborated with various stakeholders, including governments, civil society, academia, and the commercial sectors. Thirdly, both countries emphasized capacity development for both climate mitigation and adaptation. Finally, Germany and the United States customized their capacity building projects to partner countries' individual requirements and targets.

Despite similarities, there are also differences. First of all, Germany's capacity building assistance is varied, concentrating on the regions of Asia, Africa, the Balkans, and Central and South America. In contrast, the United States initiatives cover a larger geographical area, encompassing South America and the Pacific region. Second, regarding the amount and specificity of capacity building support, Germany delivered more capacity building assistance to partner nations than the United States. Finally, Germany provided capacity building support for the NDC development and implementation, while the United States assisted with the NAPs.

9.4. Conclusion

This chapter examined India's, South Africa's, Germany's, and the United States' NDCs and actions relating to financing, technological transfer, and capacity building. Due to contrasts in socioeconomic situations, historical obligations, and technological resources, India was compared to South Africa, and Germany was contrasted with the United States. The comparison of India-South Africa, and Germany-the United States demonstrates valuable insights regarding their activities

of NDCs, finance, capacity building, and technology transfer under the UNFCCC. These comparisons highlight the complex nature of global climate actions and the necessity of determining each nation's differing circumstances when assessing their contributions to the UNFCCC objectives. Hence, this comparison underlines the necessity for greater cooperation and assistance between developed and developing countries in achieving global climate goals.

Moreover, from COP 1 to COP 28, discussions of climate issues of India, South Africa, Germany, and the United States were investigated. The examination of these four nations during the COPs illustrates the complex nature of balancing national priorities with international climate responsibilities. India and South Africa have consistently emphasized equity and financial assistance, highlighting the difficulties developing nations face within a global framework still characterized by historical emissions differences. Germany, with its strong commitment to ambition and leadership in renewable energy, has established itself as a leader in climate policy, although it occasionally contends with internal contradictions, especially concerning coal. The United States, due to its global influence, has shown a shifting role, at times taking the lead (Paris Agreement) and at other times withdrawing (exit from Kyoto and Paris), reflecting the tensions between economic interests and environmental obligations within a highly polarized political landscape.

The four nations, embodying a range of socio-economic development and geopolitical power, have been influential in shaping global climate governance. The study illustrated how these countries have influenced and reacted to global climate governance by analyzing each nation's climate policies, commitments, national priorities, and negotiating stances over time. The global community faces pressing climate challenges, and the experiences of these four countries provide critical insights into the complex nature of international cooperation, the necessity of balancing national interests with global commitments, and potential avenues for more effective and equitable climate action.

Although the current literature mainly emphasizes operational shortcomings or overarching policy frameworks in climate governance, the dissertation provides a

more sophisticated comparative examination of the fundamental national interests influencing climate actions. This thesis enhances the discourse on UNFCCC negotiations by analyzing how socioeconomic contexts, historical responsibilities, and national interests influence the climate strategies of India, South Africa, Germany, and the United States amidst the procedural gaps and structural inequities between Annex I and non-Annex I countries highlighted in numerous scholarly works. This approach contributes to the literature by demonstrating the manifestation of national priorities within the UNFCCC framework.

The existing literature has thoroughly examined the deficiencies in ambition within NDCs and the obstacles to reaching a consensus in international climate negotiations. However, this dissertation argues that these critiques frequently neglect the complex balance between national priorities and international responsibilities that each nation has to manage. Hence, this thesis offers a novel perspective on how national priorities influence disparities in global climate governance by comprehensively comparing NDCs, climate finance, technology transfer, and capacity building commitments and needs among these four countries.

This dissertation highlights that resolving these contrasts is crucial for effective collaboration on climate action. Consequently, although many scholars have emphasized the significance of ambition, transparency, and accountability in climate policy and governance, this thesis contends that the essential factor for advancement is recognizing and clarifying the underlying asymmetries in national interests. This approach not only connects theory and practice, but also necessitates a more inclusive, context-aware approach in international climate negotiations.

Variance in climate targets and needs stresses the obstacles of coordinating climate efforts among countries with widely differing needs and priorities. The climate approaches of the selected countries and the COP meetings indicated that the economic level and national interests affect climate negotiation stances; developed countries are more concerned about reducing emissions while developing nations stress equity and support. Moreover, the gap in climate leadership highlights the

importance of consistent and unified leadership from significant global parties as it diminishes the global momentum required for combating climate change.

In the end, this thesis asserts that effective climate governance requires both formal collaborative approaches and dedication to addressing power disparities and fundamental systemic challenges that shape the involvement of parties in global climate initiatives. The neoliberal institutionalist theory asserts that institutions like the UNFCCC are essential for fostering interstate dialogue. Nonetheless, their effectiveness is often constrained by embedded power dynamics. Hence, reducing power imbalances and promoting dynamic adaptation to emerging climate problems are essential measures for fostering a more equitable framework, as they enable all parties to engage in meaningful participation and meet their national and international responsibilities. Neoliberal institutionalism asserts that institutions need to be adaptive, responsive, and pertinent, especially when new demands emerge, and climate issues escalate. In this regard, it is essential to strengthen institutional mechanisms to address both emerging and ongoing disparities while preserving the mutually beneficial nature of collaborative frameworks.

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APPENDICES

A. PARTIES TO THE UNFCCC

Participant	Signature	Approval (AA), Acceptance (A), Accession (a), Succession (d), Ratification
Afghanistan	12 Jun 1992	19 Sep 2002
Albania		3 Oct 1994 (a)
Algeria	13 Jun 1992	9 Jun 1993
Andorra		2 Mar 2011 (a)
Angola	14 Jun 1992	17 May 2000
Antigua and Barbuda	4 Jun 1992	2 Feb 1993
Argentina	12 Jun 1992	11 Mar 1994
Armenia	13 Jun 1992	14 May 1993 (A)
Australia	4 Jun 1992	30 Dec 1992
Austria	8 Jun 1992	28 Feb 1994
Azerbaijan	12 Jun 1992	16 May 1995
Bahamas	12 Jun 1992	29 Mar 1994
Bahrain	8 Jun 1992	28 Dec 1994
Bangladesh	9 Jun 1992	15 Apr 1994
Barbados	12 Jun 1992	23 Mar 1994
Belarus	11 Jun 1992	11 May 2000 (AA)
Belgium	4 Jun 1992	16 Jan 1996
Belize	13 Jun 1992	31 Oct 1994
Benin	13 Jun 1992	30 Jun 1994

Bhutan	11 Jun 1992	25 Aug 1995
Bolivia	10 Jun 1992	3 Oct 1994
Bosnia and Herzegovina		7 Sep 2000 (a)
Botswana	12 Jun 1992	27 Jan 1994
Brazil	4 Jun 1992	28 Feb 1994
Brunei Darussalam		7 Aug 2007 (a)
Bulgaria	5 Jun 1992	12 May 1995
Burkina Faso	12 Jun 1992	2 Sep 1993
Burundi	11 Jun 1992	6 Jan 1997
Cabo Verde	12 Jun 1992	29 Mar 1995
Cambodia		18 Dec 1995 (a)
Cameroon	14 Jun 1992	19 Oct 1994
Canada	12 Jun 1992	4 Dec 1992
Central African Republic	13 Jun 1992	10 Mar 1995
Chad	12 Jun 1992	7 Jun 1994
Chile	13 Jun 1992	22 Dec 1994
China	11 Jun 1992	5 Jan 1993
Colombia	13 Jun 1992	22 Mar 1995
Comoros	11 Jun 1992	31 Oct 1994
Congo	12 Jun 1992	14 Oct 1996
Cook Islands	12 Jun 1992	20 Apr 1993
Costa Rica	13 Jun 1992	26 Aug 1994
Côte d'Ivoire	10 Jun 1992	29 Nov 1994
Croatia	11 Jun 1992	8 Apr 1996 (A)
Cuba	13 Jun 1992	5 Jan 1994
Cyprus	12 Jun 1992	15 Oct 1997
Czech Republic	18 Jun 1993	7 Oct 1993 (AA)
Democratic People's Republic of Korea	11 Jun 1992	5 Dec 1994 (AA)
Democratic Republic of the Congo	11 Jun 1992	9 Jan 1995

Denmark	9 Jun 1992	21 Dec 1993
Djibouti	12 Jun 1992	27 Aug 1995
Dominica		21 Jun 1993 (a)
Dominican Republic	12 Jun 1992	7 Oct 1998
Ecuador	9 Jun 1992	23 Feb 1993
Egypt	9 Jun 1992	5 Dec 1994
El Salvador	13 Jun 1992	4 Dec 1995
Equatorial Guinea		16 Aug 2000 (a)
Eritrea		24 Apr 1995 (a)
Estonia	12 Jun 1992	27 Jul 1994
Eswatini	12 Jun 1992	7 Oct 1996
Ethiopia	10 Jun 1992	5 Apr 1994
European Union	13 Jun 1992	21 Dec 1993 (AA)
Fiji	9 Oct 1992	25 Feb 1993
Finland	4 Jun 1992	3 May 1994 (A)
France	13 Jun 1992	25 Mar 1994
Gabon	12 Jun 1992	21 Jan 1998
Gambia	12 Jun 1992	10 Jun 1994
Georgia		29 Jul 1994 (a)
Germany	12 Jun 1992	9 Dec 1993
Ghana	12 Jun 1992	6 Sep 1995
Greece	12 Jun 1992	4 Aug 1994
Grenada	3 Dec 1992	11 Aug 1994
Guatemala	13 Jun 1992	15 Dec 1995
Guinea	12 Jun 1992	7 May 1993
Guinea-Bissau	12 Jun 1992	27 Oct 1995
Guyana	13 Jun 1992	29 Aug 1994
Haiti	13 Jun 1992	25 Sep 1996
Holy See (Vatican City State)		6 Jul 2022 (a)
Honduras	13 Jun 1992	19 Oct 1995
Hungary	13 Jun 1992	24 Feb 1994

Iceland	4 Jun 1992	16 Jun 1993
India	10 Jun 1992	1 Nov 1993
Indonesia	5 Jun 1992	23 Aug 1994
Iran	14 Jun 1992	18 Jul 1996
Iraq		28 Jul 2009 (a)
Ireland	13 Jun 1992	20 Apr 1994
Israel	4 Jun 1992	4 Jun 1996
Italy	5 Jun 1992	15 Apr 1994
Jamaica	12 Jun 1992	6 Jan 1995
Japan	13 Jun 1992	28 May 1993 (A)
Jordan	11 Jun 1992	12 Nov 1993
Kazakhstan	8 Jun 1992	17 May 1995
Kenya	12 Jun 1992	30 Aug 1994
Kiribati	13 Jun 1992	7 Feb 1995
Kuwait		28 Dec 1994 (a)
Kyrgyzstan		25 May 2000 (a)
Lao People's Democratic Republic		4 Jan 1995 (a)
Latvia	11 Jun 1992	23 Mar 1995
Lebanon	12 Jun 1992	15 Dec 1994
Lesotho	11 Jun 1992	7 Feb 1995
Liberia	12 Jun 1992	5 Nov 2002
Libya	29 Jun 1992	14 Jun 1999
Liechtenstein	4 Jun 1992	22 Jun 1994
Lithuania	11 Jun 1992	24 Mar 1995
Luxembourg	9 Jun 1992	9 May 1994
Madagascar	10 Jun 1992	2 Jun 1999
Malawi	10 Jun 1992	21 Apr 1994
Malaysia	9 Jun 1993	13 Jul 1994
Maldives	12 Jun 1992	9 Nov 1992
Mali	30 Sep 1992	28 Dec 1994

Malta	12 Jun 1992	17 Mar 1994
Marshall Islands	12 Jun 1992	8 Oct 1992
Mauritania	12 Jun 1992	20 Jan 1994
Mauritius	10 Jun 1992	4 Sep 1992
Mexico	13 Jun 1992	11 Mar 1993
Micronesia (Federated States of)	12 Jun 1992	18 Nov 1993
Monaco	11 Jun 1992	20 Nov 1992
Mongolia	12 Jun 1992	30 Sep 1993
Montenegro		23 Oct 2006 (d)
Morocco	13 Jun 1992	28 Dec 1995
Mozambique	12 Jun 1992	25 Aug 1995
Myanmar	11 Jun 1992	25 Nov 1994
Namibia	12 Jun 1992	16 May 1995
Nauru	8 Jun 1992	11 Nov 1993
Nepal	12 Jun 1992	2 May 1994
Netherlands	4 Jun 1992	20 Dec 1993 (A)
New Zealand	4 Jun 1992	16 Sep 1993
Nicaragua	13 Jun 1992	31 Oct 1995
Niger	11 Jun 1992	25 Jul 1995
Nigeria	13 Jun 1992	29 Aug 1994
Niue		28 Feb 1996 (a)
North Macedonia		28 Jan 1998 (a)
Norway	4 Jun 1992	9 Jul 1993
Oman	11 Jun 1992	8 Feb 1995
Pakistan	13 Jun 1992	1 Jun 1994
Palau		10 Dec 1999 (a)
Panama	18 Mar 1993	23 May 1995
Papua New Guinea	13 Jun 1992	16 Mar 1993
Paraguay	12 Jun 1992	24 Feb 1994
Peru	12 Jun 1992	7 Jun 1993
Philippines	12 Jun 1992	2 Aug 1994

Poland	5 Jun 1992	28 Jul 1994
Portugal	13 Jun 1992	21 Dec 1993
Qatar		18 Apr 1996 (a)
Republic of Korea	13 Jun 1992	14 Dec 1993
Republic of Moldova	12 Jun 1992	9 Jun 1995
Romania	5 Jun 1992	8 Jun 1994
Russian Federation	13 Jun 1992	28 Dec 1994
Rwanda	10 Jun 1992	18 Aug 1998
Samoa	12 Jun 1992	29 Nov 1994
San Marino	10 Jun 1992	28 Oct 1994
Sao Tome and Principe	12 Jun 1992	29 Sep 1999
Saudi Arabia		28 Dec 1994 (a)
Senegal	13 Jun 1992	17 Oct 1994
Serbia		12 Mar 2001 (a)
Seychelles	10 Jun 1992	22 Sep 1992
Sierra Leone	11 Feb 1993	22 Jun 1995
Singapore	13 Jun 1992	29 May 1997
Slovakia	19 May 1993	25 Aug 1994 (AA)
Slovenia	13 Jun 1992	1 Dec 1995
Solomon Islands	13 Jun 1992	28 Dec 1994
Somalia		11 Sep 2009 (a)
South Africa	15 Jun 1993	29 Aug 1997
South Sudan		17 Feb 2014 (a)
Spain	13 Jun 1992	21 Dec 1993
Sri Lanka	10 Jun 1992	23 Nov 1993
St. Kitts and Nevis	12 Jun 1992	7 Jan 1993
St. Lucia	14 Jun 1993	14 Jun 1993
St. Vincent and the Grenadines		2 Dec 1996 (a)
State of Palestine		18 Dec 2015 (a)
Sudan	9 Jun 1992	19 Nov 1993
Suriname	13 Jun 1992	14 Oct 1997

Sweden	8 Jun 1992	23 Jun 1993
Switzerland	12 Jun 1992	10 Dec 1993
Syrian Arab Republic		4 Jan 1996 (a)
Tajikistan		7 Jan 1998 (a)
Thailand	12 Jun 1992	28 Dec 1994
Timor-Leste		10 Oct 2006 (a)
Togo	12 Jun 1992	8 Mar 1995 (A)
Tonga		20 Jul 1998 (a)
Trinidad and Tobago	11 Jun 1992	24 Jun 1994
Tunisia	13 Jun 1992	15 Jul 1993
Türkiye		24 Feb 2004 (a)
Turkmenistan		5 Jun 1995 (a)
Tuvalu	8 Jun 1992	26 Oct 1993
Uganda	13 Jun 1992	8 Sep 1993
Ukraine	11 Jun 1992	13 May 1997
United Arab Emirates		29 Dec 1995 (a)
United Kingdom of Great Britain and Northern Ireland	12 Jun 1992	8 Dec 1993
United Republic of Tanzania	12 Jun 1992	17 Apr 1996
United States of America	12 Jun 1992	15 Oct 1992
Uruguay	4 Jun 1992	18 Aug 1994
Uzbekistan		20 Jun 1993 (a)
Vanuatu	9 Jun 1992	25 Mar 1993
Venezuela	12 Jun 1992	28 Dec 1994
Viet Nam	11 Jun 1992	16 Nov 1994
Yemen	12 Jun 1992	21 Feb 1996
Zambia	11 Jun 1992	28 May 1993
Zimbabwe	12 Jun 1992	3 Nov 1992

B. PARTIES TO THE KYOTO PROTOCOL

Participant	Signature	Ratification, Acceptance (A), Accession (a), Approval (AA), Withdraw (w)
Afghanistan		25 Mar 2013 (a)
Albania		1 Apr 2005 (a)
Algeria		16 Feb 2005 (a)
Angola		8 May 2007 (a)
Antigua and Barbuda	16 Mar 1998	3 Nov 1998
Argentina	16 Mar 1998	28 Sep 2001
Armenia		25 Apr 2003 (a)
Australia	29 Apr 1998	12 Dec 2007
Austria	29 Apr 1998	31 May 2002
Azerbaijan		28 Sep 2000 (a)
Bahamas		9 Apr 1999 (a)
Bahrain		31 Jan 2006 (a)
Bangladesh		22 Oct 2001 (a)
Barbados		7 Aug 2000 (a)
Belarus		26 Aug 2005 (a)
Belgium	29 Apr 1998	31 May 2002
Belize		26 Sep 2003 (a)
Benin		25 Feb 2002 (a)
Bhutan		26 Aug 2002 (a)
Bolivia	9 Jul 1998	30 Nov 1999
Bosnia and Herzegovina		16 Apr 2007 (a)
Botswana		8 Aug 2003 (a)

Brazil	29 Apr 1998	23 Aug 2002
Brunei Darussalam		20 Aug 2009 (a)
Bulgaria	18 Sep 1998	15 Aug 2002
Burkina Faso		31 Mar 2005 (a)
Burundi		18 Oct 2001 (a)
Cabo Verde		10 Feb 2006 (a)
Cambodia		22 Aug 2002 (a)
Cameroon		28 Aug 2002 (a)
Canada	29 Apr 1998	17 Dec 2002 15 Dec 2012 (w)
Central African Republic		18 Mar 2008 (a)
Chad		18 Aug 2009 (a)
Chile	17 Jun 1998	26 Aug 2002
China	29 May 1998	30 Aug 2002 (AA)
Colombia		30 Nov 2001 (a)
Comoros		10 Apr 2008 (a)
Congo		12 Feb 2007 (a)
Cook Islands	16 Sep 1998	27 Aug 2001
Costa Rica	27 Apr 1998	9 Aug 2002
Côte d'Ivoire		23 Apr 2007 (a)
Croatia	11 Mar 1999	30 May 2007
Cuba	15 Mar 1999	30 Apr 2002
Cyprus		16 Jul 1999 (a)
Czech Republic	23 Nov 1998	15 Nov 2001 (AA)
Democratic People's Republic of Korea		27 Apr 2005 (a)
Democratic Republic of the Congo		23 Mar 2005 (a)
Denmark	29 Apr 1998	31 May 2002
Djibouti		12 Mar 2002 (a)
Dominica		25 Jan 2005 (a)

Dominican Republic		12 Feb 2002 (a)
Ecuador	15 Jan 1999	13 Jan 2000
Egypt	15 Mar 1999	12 Jan 2005
El Salvador	8 Jun 1998	30 Nov 1998
Equatorial Guinea		16 Aug 2000 (a)
Eritrea		28 Jul 2005 (a)
Estonia	3 Dec 1998	14 Oct 2002
Eswatini		13 Jan 2006 (a)
Ethiopia		14 Apr 2005 (a)
European Union	29 Apr 1998	31 May 2002 (AA)
Fiji	17 Sep 1998	17 Sep 1998
Finland	29 Apr 1998	31 May 2002
France	29 Apr 1998	31 May 2002 (AA)
Gabon		12 Dec 2006 (a)
Gambia		1 Jun 2001 (a)
Georgia		16 Jun 1999 (a)
Germany	29 Apr 1998	31 May 2002
Ghana		30 May 2003 (a)
Greece	29 Apr 1998	31 May 2002
Grenada		6 Aug 2002 (a)
Guatemala	10 Jul 1998	5 Oct 1999
Guinea		7 Sep 2000 (a)
Guinea-Bissau		18 Nov 2005 (a)
Guyana		5 Aug 2003 (a)
Haiti		6 Jul 2005 (a)
Honduras	25 Feb 1999	19 Jul 2000
Hungary		21 Aug 2002 (a)
Iceland		23 May 2002 (a)
India		26 Aug 2002 (a)
Indonesia	13 Jul 1998	3 Dec 2004
Iran		22 Aug 2005 (a)

Iraq		28 Jul 2009 (a)
Ireland	29 Apr 1998	31 May 2002
Israel	16 Dec 1998	15 Mar 2004
Italy	29 Apr 1998	31 May 2002
Jamaica		28 Jun 1999 (a)
Japan	28 Apr 1998	4 Jun 2002 (A)
Jordan		17 Jan 2003 (a)
Kazakhstan	12 Mar 1999	19 Jun 2009
Kenya		25 Feb 2005 (a)
Kiribati		7 Sep 2000 (a)
Kuwait		11 Mar 2005 (a)
Kyrgyzstan		13 May 2003 (a)
Lao People's Democratic Republic		6 Feb 2003 (a)
Latvia	14 Dec 1998	5 Jul 2002
Lebanon		13 Nov 2006 (a)
Lesotho		6 Sep 2000 (a)
Liberia		5 Nov 2002 (a)
Libya		24 Aug 2006 (a)
Liechtenstein	29 Jun 1998	3 Dec 2004
Lithuania	21 Sep 1998	3 Jan 2003
Luxembourg	29 Apr 1998	31 May 2002
Madagascar		24 Sep 2003 (a)
Malawi		26 Oct 2001 (a)
Malaysia	12 Mar 1999	4 Sep 2002
Maldives	16 Mar 1998	30 Dec 1998
Mali	27 Jan 1999	28 Mar 2002
Malta	17 Apr 1998	11 Nov 2001
Marshall Islands	17 Mar 1998	11 Aug 2003
Mauritania		22 Jul 2005 (a)
Mauritius		9 May 2001 (a)

Mexico	9 Jun 1998	7 Sep 2000
Micronesia (Federated States of)	17 Mar 1998	21 Jun 1999
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Mozambique		18 Jan 2005 (a)
Myanmar		13 Aug 2003 (a)
Namibia		4 Sep 2003 (a)
Nauru		16 Aug 2001 (a)
Nepal		16 Sep 2005 (a)
Netherlands	29 Apr 1998	31 May 2002 (A)
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Niger	23 Oct 1998	30 Sep 2004
Nigeria		10 Dec 2004 (a)
Niue	8 Dec 1998	6 May 1999
North Macedonia		18 Nov 2004 (a)
Norway	29 Apr 1998	30 May 2002
Oman		19 Jan 2005 (a)
Pakistan		11 Jan 2005 (a)
Palau		10 Dec 1999 (a)
Panama	8 Jun 1998	5 Mar 1999
Papua New Guinea	2 Mar 1999	28 Mar 2002
Paraguay	25 Aug 1998	27 Aug 1999
Peru	13 Nov 1998	12 Sep 2002
Philippines	15 Apr 1998	20 Nov 2003
Poland	15 Jul 1998	13 Dec 2002
Portugal	29 Apr 1998	31 May 2002 (AA)
Qatar		11 Jan 2005 (a)
Republic of Korea	25 Sep 1998	8 Nov 2002

Republic of Moldova		22 Apr 2003 (a)
Romania	5 Jan 1999	19 Mar 2001
Russian Federation	11 Mar 1999	18 Nov 2004
Rwanda		22 Jul 2004 (a)
Samoa	16 Mar 1998	27 Nov 2000
San Marino		28 Apr 2010 (a)
Sao Tome and Principe		25 Apr 2008 (a)
Saudi Arabia		31 Jan 2005 (a)
Senegal		20 Jul 2001 (a)
Serbia		19 Oct 2007 (a)
Seychelles	20 Mar 1998	22 Jul 2002
Sierra Leone		10 Nov 2006 (a)
Singapore		12 Apr 2006 (a)
Slovakia	26 Feb 1999	31 May 2002
Slovenia	21 Oct 1998	2 Aug 2002
Solomon Islands	29 Sep 1998	13 Mar 2003
Somalia		26 Jul 2010 (a)
South Africa		31 Jul 2002 (a)
Spain	29 Apr 1998	31 May 2002
Sri Lanka		3 Sep 2002 (a)
St. Kitts and Nevis		8 Apr 2008 (a)
St. Lucia	16 Mar 1998	20 Aug 2003
St. Vincent and the Grenadines	19 Mar 1998	31 Dec 2004
Sudan		2 Nov 2004 (a)
Suriname		25 Sep 2006 (a)
Sweden	29 Apr 1998	31 May 2002
Switzerland	16 Mar 1998	9 Jul 2003
Syrian Arab Republic		27 Jan 2006 (a)
Tajikistan		29 Dec 2008 (a)
Thailand	2 Feb 1999	28 Aug 2002
Timor-Leste		14 Oct 2008 (a)

Togo		2 Jul 2004 (a)
Tonga		14 Jan 2008 (a)
Trinidad and Tobago	7 Jan 1999	28 Jan 1999
Tunisia		22 Jan 2003 (a)
Türkiye		28 May 2009 (a)
Turkmenistan	28 Sep 1998	11 Jan 1999
Tuvalu	16 Nov 1998	16 Nov 1998
Uganda		25 Mar 2002 (a)
Ukraine	15 Mar 1999	12 Apr 2004
United Arab Emirates		26 Jan 2005 (a)
United Kingdom of Great Britain and Northern Ireland	29 Apr 1998	31 May 2002
United Republic of Tanzania		26 Aug 2002 (a)
United States of America	12 Nov 1998	
Uruguay	29 Jul 1998	5 Feb 2001
Uzbekistan	20 Nov 1998	12 Oct 1999
Vanuatu		17 Jul 2001 (a)
Venezuela		18 Feb 2005 (a)
Viet Nam	3 Dec 1998	25 Sep 2002
Yemen		15 Sep 2004 (a)
Zambia	5 Aug 1998	7 Jul 2006
Zimbabwe		30 Jun 2009 (a)

C. PARTIES TO THE PARIS AGREEMENT

Participant	Signature	Ratification, Acceptance (A), Approval (AA), Accession (a), Withdraw (w)
Afghanistan	22 Apr 2016	15 Feb 2017
Albania	22 Apr 2016	21 Sep 2016
Algeria	22 Apr 2016	20 Oct 2016
Andorra	22 Apr 2016	24 Mar 2017
Angola	22 Apr 2016	16 Nov 2020
Antigua and Barbuda	22 Apr 2016	21 Sep 2016
Argentina	22 Apr 2016	21 Sep 2016
Armenia	20 Sep 2016	23 Mar 2017
Australia	22 Apr 2016	9 Nov 2016
Austria	22 Apr 2016	5 Oct 2016
Azerbaijan	22 Apr 2016	9 Jan 2017
Bahamas	22 Apr 2016	22 Aug 2016
Bahrain	22 Apr 2016	23 Dec 2016
Bangladesh	22 Apr 2016	21 Sep 2016
Barbados	22 Apr 2016	22 Apr 2016
Belarus	22 Apr 2016	21 Sep 2016 (A)
Belgium	22 Apr 2016	6 Apr 2017
Belize	22 Apr 2016	22 Apr 2016
Benin	22 Apr 2016	31 Oct 2016
Bhutan	22 Apr 2016	19 Sep 2017
Bolivia	22 Apr 2016	5 Oct 2016
Bosnia and Herzegovina	22 Apr 2016	16 Mar 2017
Botswana	22 Apr 2016	11 Nov 2016

Brazil	22 Apr 2016	21 Sep 2016
Brunei Darussalam	22 Apr 2016	21 Sep 2016
Bulgaria	22 Apr 2016	29 Nov 2016
Burkina Faso	22 Apr 2016	11 Nov 2016
Burundi	22 Apr 2016	17 Jan 2018
Cabo Verde	22 Apr 2016	21 Sep 2017
Cambodia	22 Apr 2016	6 Feb 2017
Cameroon	22 Apr 2016	29 Jul 2016
Canada	22 Apr 2016	5 Oct 2016
Central African Republic	22 Apr 2016	11 Oct 2016
Chad	22 Apr 2016	12 Jan 2017
Chile	20 Sep 2016	10 Feb 2017
China	22 Apr 2016	3 Sep 2016
Colombia	22 Apr 2016	12 Jul 2018
Comoros	22 Apr 2016	23 Nov 2016
Congo	22 Apr 2016	21 Apr 2017
Cook Islands	24 Jun 2016	1 Sep 2016
Costa Rica	22 Apr 2016	13 Oct 2016
Côte d'Ivoire	22 Apr 2016	25 Oct 2016
Croatia	22 Apr 2016	24 May 2017
Cuba	22 Apr 2016	28 Dec 2016
Cyprus	22 Apr 2016	4 Jan 2017
Czech Republic	22 Apr 2016	5 Oct 2017
Democratic People's Republic of Korea	22 Apr 2016	1 Aug 2016
Democratic Republic of the Congo	22 Apr 2016	13 Dec 2017
Denmark	22 Apr 2016	1 Nov 2016 (AA)
Djibouti	22 Apr 2016	11 Nov 2016
Dominica	22 Apr 2016	21 Sep 2016
Dominican Republic	22 Apr 2016	21 Sep 2017

Ecuador	26 Jul 2016	20 Sep 2017
Egypt	22 Apr 2016	29 Jun 2017
El Salvador	22 Apr 2016	27 Mar 2017
Equatorial Guinea	22 Apr 2016	30 Oct 2018
Eritrea	22 Apr 2016	7 Feb 2023
Estonia	22 Apr 2016	4 Nov 2016
Eswatini	22 Apr 2016	21 Sep 2016
Ethiopia	22 Apr 2016	9 Mar 2017
European Union	22 Apr 2016	5 Oct 2016
Fiji	22 Apr 2016	22 Apr 2016
Finland	22 Apr 2016	14 Nov 2016
France	22 Apr 2016	5 Oct 2016
Gabon	22 Apr 2016	2 Nov 2016
Gambia	26 Apr 2016	7 Nov 2016
Georgia	22 Apr 2016	8 May 2017 (AA)
Germany	22 Apr 2016	5 Oct 2016
Ghana	22 Apr 2016	21 Sep 2016
Greece	22 Apr 2016	14 Oct 2016
Grenada	22 Apr 2016	22 Apr 2016
Guatemala	22 Apr 2016	25 Jan 2017
Guinea	22 Apr 2016	21 Sep 2016
Guinea-Bissau	22 Apr 2016	22 Oct 2018
Guyana	22 Apr 2016	20 May 2016
Haiti	22 Apr 2016	31 Jul 2017
Holy See (Vatican City State)		4 Sep 2022 (a)
Honduras	22 Apr 2016	21 Sep 2016
Hungary	22 Apr 2016	5 Oct 2016
Iceland	22 Apr 2016	21 Sep 2016 (A)
India	22 Apr 2016	2 Oct 2016
Indonesia	22 Apr 2016	31 Oct 2016
Iran	22 Apr 2016	

Iraq	8 Dec 2016	1 Nov 2021
Ireland	22 Apr 2016	4 Nov 2016
Israel	22 Apr 2016	22 Nov 2016
Italy	22 Apr 2016	11 Nov 2016
Jamaica	22 Apr 2016	10 Apr 2017
Japan	22 Apr 2016	8 Nov 2016 (A)
Jordan	22 Apr 2016	4 Nov 2016
Kazakhstan	2 Aug 2016	6 Dec 2016
Kenya	22 Apr 2016	28 Dec 2016
Kiribati	22 Apr 2016	21 Sep 2016
Kuwait	22 Apr 2016	23 Apr 2018
Kyrgyzstan	21 Sep 2016	18 Feb 2020
Lao People's Democratic Republic	22 Apr 2016	7 Sep 2016
Latvia	22 Apr 2016	16 Mar 2017
Lebanon	22 Apr 2016	5 Feb 2020
Lesotho	22 Apr 2016	20 Jan 2017
Liberia	22 Apr 2016	27 Aug 2018
Libya	22 Apr 2016	
Liechtenstein	22 Apr 2016	20 Sep 2017
Lithuania	22 Apr 2016	2 Feb 2017
Luxembourg	22 Apr 2016	4 Nov 2016
Madagascar	22 Apr 2016	21 Sep 2016
Malawi	20 Sep 2016	29 Jun 2017
Malaysia	22 Apr 2016	16 Nov 2016
Maldives	22 Apr 2016	22 Apr 2016
Mali	22 Apr 2016	23 Sep 2016
Malta	22 Apr 2016	5 Oct 2016
Marshall Islands	22 Apr 2016	22 Apr 2016
Mauritania	22 Apr 2016	27 Feb 2017
Mauritius	22 Apr 2016	22 Apr 2016

Mexico	22 Apr 2016	21 Sep 2016
Micronesia (Federated States of)	22 Apr 2016	15 Sep 2016
Monaco	22 Apr 2016	24 Oct 2016
Mongolia	22 Apr 2016	21 Sep 2016
Montenegro	22 Apr 2016	20 Dec 2017
Morocco	22 Apr 2016	21 Sep 2016
Mozambique	22 Apr 2016	4 Jun 2018
Myanmar	22 Apr 2016	19 Sep 2017
Namibia	22 Apr 2016	21 Sep 2016
Nauru	22 Apr 2016	22 Apr 2016
Nepal	22 Apr 2016	5 Oct 2016
Netherlands	22 Apr 2016	28 Jul 2017 (A)
New Zealand	22 Apr 2016	4 Oct 2016
Nicaragua		23 Oct 2017 (a)
Niger	22 Apr 2016	21 Sep 2016
Nigeria	22 Sep 2016	16 May 2017
Niue	28 Oct 2016	28 Oct 2016
North Macedonia	22 Apr 2016	9 Jan 2018
Norway	22 Apr 2016	20 Jun 2016
Oman	22 Apr 2016	22 May 2019
Pakistan	22 Apr 2016	10 Nov 2016
Palau	22 Apr 2016	22 Apr 2016
Panama	22 Apr 2016	21 Sep 2016
Papua New Guinea	22 Apr 2016	21 Sep 2016
Paraguay	22 Apr 2016	14 Oct 2016
Peru	22 Apr 2016	25 Jul 2016
Philippines	22 Apr 2016	23 Mar 2017
Poland	22 Apr 2016	7 Oct 2016
Portugal	22 Apr 2016	5 Oct 2016
Qatar	22 Apr 2016	23 Jun 2017
Republic of Korea	22 Apr 2016	3 Nov 2016

Republic of Moldova	21 Sep 2016	20 Jun 2017
Romania	22 Apr 2016	1 Jun 2017
Russian Federation	22 Apr 2016	7 Oct 2019 (A)
Rwanda	22 Apr 2016	6 Oct 2016
Samoa	22 Apr 2016	22 Apr 2016
San Marino	22 Apr 2016	26 Sep 2018
Sao Tome and Principe	22 Apr 2016	2 Nov 2016
Saudi Arabia	3 Nov 2016	3 Nov 2016
Senegal	22 Apr 2016	21 Sep 2016
Serbia	22 Apr 2016	25 Jul 2017
Seychelles	25 Apr 2016	29 Apr 2016
Sierra Leone	22 Sep 2016	1 Nov 2016
Singapore	22 Apr 2016	21 Sep 2016
Slovakia	22 Apr 2016	5 Oct 2016
Slovenia	22 Apr 2016	16 Dec 2016
Solomon Islands	22 Apr 2016	21 Sep 2016
Somalia	22 Apr 2016	22 Apr 2016
South Africa	22 Apr 2016	1 Nov 2016
South Sudan	22 Apr 2016	23 Feb 2021
Spain	22 Apr 2016	12 Jan 2017
Sri Lanka	22 Apr 2016	21 Sep 2016
St. Kitts and Nevis	22 Apr 2016	22 Apr 2016
St. Lucia	22 Apr 2016	22 Apr 2016
St. Vincent and the Grenadines	22 Apr 2016	29 Jun 2016
State of Palestine	22 Apr 2016	22 Apr 2016
Sudan	22 Apr 2016	2 Aug 2017
Suriname	22 Apr 2016	13 Feb 2019
Sweden	22 Apr 2016	13 Oct 2016
Switzerland	22 Apr 2016	6 Oct 2017
Syrian Arab Republic		13 Nov 2017 (a)
Tajikistan	22 Apr 2016	22 Mar 2017

Thailand	22 Apr 2016	21 Sep 2016
Timor-Leste	22 Apr 2016	16 Aug 2017
Togo	19 Sep 2016	28 Jun 2017
Tonga	22 Apr 2016	21 Sep 2016
Trinidad and Tobago	22 Apr 2016	22 Feb 2018
Tunisia	22 Apr 2016	10 Feb 2017
Türkiye	22 Apr 2016	11 Oct 2021
Turkmenistan	23 Sep 2016	20 Oct 2016
Tuvalu	22 Apr 2016	22 Apr 2016
Uganda	22 Apr 2016	21 Sep 2016
Ukraine	22 Apr 2016	19 Sep 2016
United Arab Emirates	22 Apr 2016	21 Sep 2016 (A)
United Kingdom of Great Britain and Northern Ireland	22 Apr 2016	18 Nov 2016
United Republic of Tanzania	22 Apr 2016	18 May 2018
United States of America	22 Apr 2016	4 Nov 2020 (w) 20 Jan 2021 (A)
Uruguay	22 Apr 2016	19 Oct 2016
Uzbekistan	19 Apr 2017	9 Nov 2018
Vanuatu	22 Apr 2016	21 Sep 2016
Venezuela	22 Apr 2016	21 Jul 2017
Viet Nam	22 Apr 2016	3 Nov 2016 (AA)
Yemen	23 Sep 2016	
Zambia	20 Sep 2016	9 Dec 2016
Zimbabwe	22 Apr 2016	7 Aug 2017

D. CURRICULUM VITAE

ERAY ERBİL

EDUCATION

Degree	Institution	Year of Graduation
MS	Sabancı University European Studies	2018
BS	Bilkent University International Relations	2017
High School	Büyük College	2012

WORK EXPERIENCE

Year	Place	Enrollment
2025-Present	ASELSAN	Specialist
2024-2025	Teknopark Ankara	Project Development Specialist
2022-2024	Lokman Hekim University	Project Specialist
2019-2022	TOBB University of Economics and Technology	Assistant Project Specialist

FOREIGN LANGUAGES

Advanced English, Elementary Spanish

PUBLICATIONS

Eray Erbil (2024). Redefining Energy Dynamics: Eastern Mediterranean in the Era of
Decarbonization. *The Square*.

Eray Erbil and Prof. Oktay Tanrısever (2024). Energy Regionalism in Wider Europe: Sub-Regional Energy Dynamics and the EU's Eastern Partnership. *Ankara Avrupa Çalışmaları Dergisi*, Vol 23, No:1.

Eray Erbil (2023). İklim Krizi Çerçevesinde Avrupa Yeşil Mutabakatı. *Hariciye Dergisi*

Eray Erbil and Begüm Baydar (2020). Strategic Competition in the Eastern Mediterranean: Geopolitics of Maritime Delimitation. *Eurasian World*. Year:3, No:6.

Ali Oğuz Diriöz and Eray Erbil (2020). Regional Gas Interconnectivity and the Implications of Trade in Liquefied Natural Gas for Energy Security of Non-EU Western Balkan States. *Journal of Sustainable Development Law and Policy*, Vol 10, Issue 2.

Ali Oğuz Diriöz and Eray Erbil (2020). The Prospects of Natural Gas Organization in Light of Qatar's OPEC Exit: Some Critical Reflections. *The Extractive Industries and Society. Extractive Industries in MENA Region* (Special Issue).

HOBBIES

Tennis, Diving, Aviation, History

E. TURKISH SUMMARY / TÜRKÇE ÖZET

Dünya artan küresel sıcaklıklar, aşırı hava olayları ve artan çevresel tahribatla boğuşurken, iklim değişikliğinin acil olarak ele alınması ihtiyacı son yıllarda giderek daha belirgin hale gelmiştir. Birleşmiş Millet İklim Değişikliği Çerçeve Sözleşmesi (BMİDÇS), ülkelerin iklim değişikliğini azaltma ve uyum stratejileri üzerinde müzakere ve iş birliği yapmaları için ana platform olarak gelişmiştir. Bununla birlikte, etkili ve adil bir iklim eylemi, ülkelerin farklı yaklaşım ve politikalarının, özellikle de önemli ekonomik, siyasi ve çevresel etkiye sahip olanların derinlemesine anlaşılmasını gerektirmektedir. Bu alanda, Hindistan, Güney Afrika, Almanya ve Amerika Birleşik Devletleri (ABD) farklı coğrafyaları, ekonomik kalkınma seviyelerini ve siyasi çevreleri temsil etmekte ve karşılaştırmalı analiz için önemli vaka çalışmaları haline gelmektedir.

Bu tez, farklı coğrafi, ekonomik ve siyasi ortamları karşılaştırmalı değerlendirme için ikna etmeye yetecek bir argüman sağlayan dört kilit ülkenin (Hindistan, Güney Afrika, Almanya ve ABD) iklim değişikliği politikalarını ve müzakere pozisyonlarını incelemektedir. Uluslararası iklim tartışmalarında kilit aktörler olan ABD ve Almanya, iklim finansmanı, teknoloji transferi ve kapasite geliştirme konularındaki katkılarını dile getirmişlerdir. Aynı zamanda Hindistan ve Güney Afrika da BMİDÇS'ye sundukları belgelerde aynı alanlardaki ihtiyaçlarını ortaya koymuşlardır. Bu unsurlar, iklim finansmanı, teknoloji transferi ve kapasite geliştirmeyi ulusların iklim hedeflerine ulaşmalarına yardımcı olacak ve adil küresel iklim eylemini teşvik edecek temel mekanizmalar olarak vurgulayan Paris Anlaşması'nın 9, 10 ve 11. Maddeleri ile ilgilidir.

Paris sonrası döneme vurgu yapan bu tez, küresel iklim eyleminde yeni bir dönemin başlangıcına işaret eden Paris Anlaşması'ndan bu yana bu ülkelerin taahhütlerinin ve hedeflerinin nasıl değiştiğini araştırmaktadır. Bu dönem, daha uyarlanabilir, ulusal olarak belirlenmiş taahhütlere geçiş, katı hedeflerden uzaklaşma ve ülkeler arasında

iş birliği ve yardımlaşmaya öncelik veren çerçevelere doğru ilerleme ile damgasını vurmaktadır. Dolayısıyla bu çalışma, seçilmiş ülkelerin BMİDÇS'ye yaptıkları son sunuşlar aracılığıyla Paris Anlaşması sonrası bağlama odaklanmakta ve bu ülkelerin politika ve stratejilerinin uyumluluğu veya farklılaşmasına ilişkin içgörüler sunmaktadır. Bu vurgu, uluslararası iklim müzakerelerinde iklim finansmanı, teknoloji transferi ve kapasite geliştirmenin süregelen öneminin altını çizerken, küresel iklim çerçevesi içinde çeşitli ulusal bağlamlara yardımcı olmak için bu mekanizmaların yürütülmesindeki zorlukları ve başarıları da ortaya koymaktadır.

Ayrıca, BMİDÇS taraflar konferansı (COP) müzakereleri boyunca bu ülkelerin pozisyonlarını ve eylemlerini anlamak, uluslararası iklim diplomasisinde fikir birliği sağlamanın genel zorlukları ve seçilmiş ülkelerin iklim değişikliği konularına yaklaşımları hakkında değerli bilgiler sunmaktadır. Müzakereler ilerledikçe, ülkeler ele aldıkları konuların kapsamını genişletmiştir. İklim değişikliği, gelecekteki etkilerini hafifletmek için emisyon azaltımını gerektiren çevresel bir sorun olarak görülmüştür. Zaman içinde resmi müzakerelere yeni konular eklendikçe, adaptasyon, teknoloji transferi ve hatta iklim politikasının kendi sonuçları da iklim müzakerelerinin gündemine girmiştir. Bu alanda, en son ulusal katkı beyanlarının (NDC), uzun vadeli iklim değişikliği stratejilerinin (LT-LEDS), iki yıllık raporların (BR) ve iki yıllık güncelleme raporlarının (BUR) yanı sıra COP 1'den COP 28'e kadar müzakere duruşlarının eleştirel bir analizi yoluyla, bu tez seçilen ülkelerin iklim değişikliğine yaklaşımlarını vurgulamayı amaçlamaktadır.

Neoliberal kurumsalcılığı teorik bir çerçeve olarak kullanan bu tez, BMİDÇS gibi uluslararası örgütlerin, rekabet halindeki ulusal çıkarlara rağmen ulusların etkileşime girmesine olanak tanıyan yapılandırılmış bir çerçeveyi nasıl sunduğunu araştırmaktadır. BMİDÇS'nin çok taraflı mekanizmaları, iklim değişikliği sorunlarını tanımlamada etkili olurken, bu sorunu ele almak için bir kurallar çerçevesi de oluşturmuştur. Neoliberal kurumsalcılık, kurumların iş birliğini teşvik etme, güveni artırma ve kolektif eylem konularını ele almak için kılavuzlar sağlama işlevine odaklanır, bu nedenle ulusların neden iklim eylemine katıldıkları veya direndikleri konusunda önemli bilgiler sağlar. Bu nedenle, bu tez küresel iklim yönetişimini

şekillendiren dinamikleri ve kurumsallaşmış katılım yoluyla önemli ilerleme sağlama fırsatlarını aydınlatmayı amaçlamaktadır.

Ülke karşılaştırmaları, NDC'ler ve BR'ler ile BUR'lerde bahsedilen üç mekanizma üzerinden yapılmaktadır: iklim finansmanı, teknoloji transferi ve kapasite geliştirme. Bu tez, Paris Anlaşması'nda açıkça belirtildiği için bu üç ana mekanizmayı incelemektedir. Bu alanda, bu tez Paris sonrası dönemde bu ülkeler tarafından iletilen taahhütlerin ve gerekliliklerin evrimini incelemektedir. Dolayısıyla, seçilen ülkelerin BR'leri, BUR'leri ve NDC'lerinin en son beyanları dikkate alınmaktadır. Sonuç olarak bu tez, NDC'lerin, iklim finansmanının, teknoloji transferinin ve kapasite geliştirmenin iklim yönetişimini nasıl desteklediğini veya çıkmaza soktuğunu karşılaştırmalı bir mercekle araştırmaktadır.

Paris Anlaşması'nın 9. Maddesi, gelişmiş ülkelerin gelişmekte olan ülkelere mali yardım sağlamasını zorunlu kılarak iklim finansmanının hem uyum hem de azaltım talebinin karşılanması için önemli bir araç olduğunu vurgulamaktadır. Teknoloji transferini ele alan 10. Madde, inovasyonu teşvik etmenin ve sürdürülebilir teknolojileri dünya çapında kullanıma sunmanın önemini vurgulamaktadır. Son olarak, kapasite geliştirmeye ilişkin 11. Madde kurumsal, teknik ve politika ile ilgili kapasitelerin güçlendirilmesinin önemini vurgulamaktadır. Bu üç mekanizma, NDC'lerle birlikte, farklı önceliklere ve kalkınma düzeylerine sahip uluslar için uluslararası iklim eylemi için bir çerçeve oluşturmaktadır.

Ayrıca, bu tez, iklim gündemlerine azaltım konuları hâkim olduğu için, öncelikle uyum yerine iklim azaltımını vurgulamaktadır. Bu vurgu, sera gazı emisyonlarını azaltan ve düşük karbonlu ekonomilere geçişi kolaylaştıran önlemlerin incelenmesi yoluyla iklim değişikliğinin temel nedenleriyle mücadele edilmesi gerekliliğinin altını çizmektedir. Uyum, ülkelerin iklim değişikliğinin etkilerini yönetme ve azaltma konusunda desteklenmesinde kritik öneme sahip olsa da bu tez uyum tartışmasını azaltım tedbirlerini bağlamsallaştırmak için gereken miktarla sınırlayacaktır. Dolayısıyla bu tez, belirli ülkelerin politikalar, mali taahhütler ve teknolojik yenilikler yoluyla küresel emisyonların azaltılmasına nasıl katkıda bulunduğunu değerlendirerek azaltıma odaklanmakta ve böylece Paris Anlaşması'nda

öngörüldüğü üzere küresel sıcaklık artışının sınırlandırılması temel hedefine yardımcı olmaktadır.

Buna ek olarak, bu tez, ulusal hükümetlerin politikalarını, stratejilerini ve katkılarını BMİDÇS bağlamında inceleyerek hükümet yaklaşımlarını esas almaktadır. Özel sektör ve sivil toplum kuruluşlarının (STK'lar) iklim değişikliğiyle mücadelede oynadıkları kritik rollerin farkında olmakla birlikte, bu araştırma bu aktörleri kapsamamaktadır. Dolayısıyla bu çalışma, küresel iklim yönetişiminin hükümet boyutunu aydınlatmak için devlet öncülüğündeki girişimlere ve etkileşimlere odaklanmaktadır.

Daha önce de ifade edildiği üzere bu tez, Hindistan, Güney Afrika, Almanya ve ABD'nin iklim değişikliği politikalarını ve yaklaşımlarını incelemektedir. Bu doğrultuda, tezde bu ülkelerin politikalarına, hedeflerine ve taahhütlerine ilişkin bağlamsal bilgiler sunmak amacıyla betimsel analiz yöntemi kullanılmaktadır. Hükümet istatistikleri, veriler, ulusal ve uluslararası raporlar, seçili ülkelerle ilgili yayınlar, akademik makaleler ve kitaplar bu çalışmada kullanılan başlıca kaynaklardır. Bu nedenle, çalışma, kapsamlı bir tablo sunabilmek için farklı kaynaklardan bilgi toplamaktadır. Aslında, iklim değişikliği politikası sürekli bir süreçtir ve tezde ele alınan konuların çoğu güncel ve çağdaş meselelere ilişkindir. Bu bağlamda, en doğru ve güncel bilgiyi sunmak amacıyla web kaynakları ve BMİDÇS belgeleri de kullanılacaktır.

Betimsel analiz yöntemine ek olarak, dört farklı ülkenin iklim değişikliği yaklaşımlarını daha net bir şekilde ortaya koymak için vaka analizi yöntemi de kullanmaktadır. Hindistan, Güney Afrika, Almanya ve ABD'yi kapsayan vaka analizleri, bu ülkelerin deneyimlerinin birbirinden nasıl farklılık gösterdiğini ve iklim değişikliği zorluklarıyla nasıl başa çıktıklarını ortaya koymaktadır. Sonuç olarak, tez, bu ülkelerin UNFCCC toplantılarında neyi ve nasıl müzakere ettiklerini ve iklimle ilgili zorluklara nasıl yaklaştıklarını göstermektedir. Vaka analizine dahil edilen ülkeler çeşitli faktörlere dayalı olarak seçilmiştir. Seçilen ülkeler farklı kıtalarda yer almakta ve farklı ekonomik gelişmişlik düzeylerine sahiptir. Özellikle, Hindistan ve Güney Afrika gelişmekte olan ülkeler olup Ek I dışı ülkeler arasında yer alırken,

Almanya ve Amerika Birleşik Devletleri gelişmiş ülkeler olarak Ek I ülkeleri arasında sınıflandırılmaktadır. Bu bağlamda, her bir ülke, konumu ve ekonomik gelişmişlik düzeyine bağlı olarak iklim değişikliğiyle mücadelede kendine özgü fırsat ve zorluklarla karşı karşıyadır.

Günümüzün en önemli sorunlarından biri, yaygın uluslararası iş birliği ve yaratıcı politika yanıtları gerektiren acil iklim değişikliği sorunudur. İklim eyleminin yönünü büyük ölçüde iklim değişikliği yönetişimi, iklim değişikliği müzakereleri ve iklim değişikliği politika yapımı etkilemektedir. Dolayısıyla literatür taraması, iklim eylemi alanındaki karmaşık dinamikler, zorluklar ve fırsatlar hakkında fikir veren çok çeşitli akademik yayınları incelemektedir. Nihayetinde, bu kapsamlı incelemelerden faydalanan bu literatür taraması, iklim eylemi konusunda sentezlenmiş bir bilgi sunmaya çalışmaktadır.

Literatürdeki bazı akademisyenler iklim değişikliği yönetişiminin zorluklarını araştırmaktadır. İklim değişikliğini başarılı bir şekilde yönetmek için alternatif kurumsal ve politika yapıları bulmaya çalışmışlardır. Dolayısıyla, bu yazarlar iklim değişikliği yönetişiminde yerel kurumsal planlama, uluslararası iş birliği, şeffaflık ve hesap verebilirliğin değerini vurgulamaktadır. Her ne kadar bu akademisyenler iklim yönetişiminin kurumsal ve iş birliğine dayalı boyutlarına ilişkin önemli içgörüler sunsa da tezin argümanı, iklim eylemi konusunda küresel mutabakatı engelleyen temeldeki sistemik eşitsizliklerin ve ulusal önceliklerin ele alınmasının zorunluluğunu vurgulayarak mevcut bulguları derinleştirmektedir.

İklim değişikliği yönetişimini araştıran akademisyenlerin yanı sıra, başkaları da iklim değişikliği müzakerelerini analiz etmektedir. Yazarlar, delegasyonların yapısını, müzakere deneyimlerini, toplantılarda tartışılan konuları, COP toplantılarına alternatifleri, iklim müzakerelerindeki çıkmazın nedenlerini, çok taraflı prosedürleri ve karşılıklı öğrenmenin katkılarını incelemektedir. Sonuç olarak yazarlar, iklim müzakerelerinin gelişmiş devletlerin yararına olduğunu; büyük ve etkili delegasyonların temel itici güçlerinin kaynaklar ve çıkarlar olduğunu ve kapasite geliştirmeye yönelik eşitlikçi ve kapsayıcı bir yaklaşımın gerekliliğini vurgulamaktadır.

Ayrıca, güvenin geliştirilmesi ve iklim eyleminin teşvik edilmesi için yeni yaklaşımların ve bakış açılarının dahil edilmesinin altını çizmekte, kamu otoriteleri tarafından desteklenen tek taraflı eylem olarak bilinen alternatif bir yaklaşım önermekte ve emisyon azaltımlarının acil olarak ele alınması ve tartışmalar boyunca gündeme getirilen konular arasında daha fazla denge kurulması ihtiyacını vurgulamaktadırlar. Yazarlar ayrıca, bilimsel kanıtların uluslararası iklim değişikliği çabalarıyla ilişkilendirilmesinin önemini vurgulamakta, uyum ve azaltım için acil eylem ihtiyacının altını çizmekte ve iklim değişikliği müzakerelerine eşit katılım ihtiyacını vurgulamaktadır.

Her ne kadar bu çalışmalar küresel iklim yönetişiminin operasyonel ve prosedürel eksikliklerini tespit edip eleştirseler de ulusal öncelikler ve çıkarlar arasında uzlaşmayı temelden engelleyen daha derin sistemik boşlukları sıklıkla ihmal etmektedirler. Kayda değer ilerlemenin önündeki engeller, özellikle iklim finansmanı, teknoloji transferi ve kapasite geliştirme ile ilgili yapılarda ve köklü ulusal çıkarlarda yatmaktadır. Sonuç olarak, küresel uzlaşmanın sağlanması, bu temel farklılıkların daha şeffaf ve kapsayıcı bir yaklaşımla ele alınmasını gerektirmektedir. Bu alanda tez, bu girişimlerin prosedürel reformların ötesine geçmesi ve iklim politikalarını yönlendiren temel ulusal çıkarları ele alması gerektiğini, şeffaflık, eşitlik ve gerçek çok taraflı katılımı bu boşlukları kapatmak ve daha etkili küresel iklim eylemine doğru ilerlemek için kritik hale getirdiğini savunmaktadır.

İklim değişikliği politikası oluşturma da iklim eyleminin bir diğer kilit unsurudur. Literatürde akademisyenler iklim değişikliği azaltım girişimlerini incelemekte, iklim değişikliği politikalarını karşılaştırmakta ve NDC'ler arasındaki benzerlik ve farklılıkları analiz etmektedir. Sonuç olarak yazarlar, iklim hedeflerine ulaşmak için devrim niteliğinde eylemlerin gerekliliğini vurgulamakta, politika ve stratejiler için etkili değerlendirme kriterleri için çağrıda bulunmakta ve NDC'lerin etkili iklim politikaları oluşturmak için bir araç olarak hizmet edemediğini ileri sürmektedir. Ancak, bu alandaki literatür küresel iklim müzakerelerinde uzlaşmayı temelden engelleyen ulusal önceliklerle ilgili altta yatan sistemik engelleri göz ardı etmektedir.

Sonuç olarak, literatür taraması iklim eyleminin çok yönlü özelliğini derinlemesine incelemektedir. Literatürde, iklim eyleminin karmaşık dinamikleri, zorlukları ve fırsatları, çeşitli akademisyenler tarafından iklim değişikliği yönetişimi, müzakereler ve politika oluşturma yoluyla aydınlatılmaktadır. Mevcut literatür prosedürel yetersizlikleri vurgulasa ve yapısal çerçeveleri eleştirse de iklim eylemi konusunda küresel uzlaşıyı temelden engelleyen derin sistemik eşitsizlikleri ve ulusal öncelikleri sıklıkla göz ardı etmektedir. Bu sorunların literatürde yüzeysel olarak ele alınması, küresel iş birliğinin önündeki bu yapısal ve sistemik engellerin kapsamlı ve derinlemesine bir şekilde değerlendirilmesini zorlaştırmaktadır.

Bu tez, seçilmiş gelişmiş ve gelişmekte olan ülkelerin BMİDÇS beyanlarını inceleyip karşılaştırarak, yaklaşımlarının, önceliklerinin ve bunları etkileyen temel ulusal çıkarların kapsamlı bir analizini sunarak bu önemli eksikliği gidermeyi amaçlamaktadır. Bu karşılaştırmalı analiz, küresel iklim yönetişiminde önemli ilerlemelerin neden hala sağlanamadığını anlamak için elzemdir. Bu bağlamda tez, ulusal öncelikler ve uluslararası müzakereler arasındaki etkileşimin daha sofistike bir şekilde anlaşılmasını teşvik ederek, ülkelerin COP 1'den COP 28'e kadar iklim yaklaşımlarını ve pozisyonlarını inceleyerek ve Paris Anlaşmasında belirtilen iklim finansmanı, teknoloji transferi ve kapasite geliştirme konularına odaklanarak mevcut iklim politikası ve eylem literatürünü geliştirmeyi amaçlamaktadır.

Bu tezde, sosyoekonomik koşullar, tarihsel yükümlülükler ve teknolojik kapasiteler farklı olduğu için Hindistan Güney Afrika ile, Almanya ise ABD ile karşılaştırılmıştır. Dolayısıyla, devletlerin ekonomik büyüme hedefleri ile iklim taahhütleri arasındaki karmaşık etkileşimi nasıl yönettikleri, kalkınma hedefleri olan iki büyüyen ekonomi olan Güney Afrika ve Hindistan'ı bir araya getirerek incelenmektedir. Benzer şekilde, iyi gelişmiş altyapılara sahip iki gelişmiş ekonomi olan Almanya ve ABD'nin karşılaştırılması, iyi gelişmiş iklim yasalarının etkinliğinin yanı sıra çevresel uygulamaların ilerletilmesinde inovasyonun rolünün kapsamlı bir şekilde incelenmesine olanak sağlamaktadır. Bu yaklaşım, karşılaştırılabilir kalkınma aşamalarındaki ulusların paylaştığı benzerlikleri ve ulusal iklim hedeflerini küresel çevre yükümlülükleriyle birleştirmek için kullandıkları karmaşık yaklaşımları ortaya koymaktadır.

Hindistan, Güney Afrika, Almanya ve ABD'nin iklim değişikliği ile mücadeledeki yaklaşımları, NDC'ler, iklim finansmanı, kapasite geliştirme ve teknoloji transferi konularında hem yakınlaşma hem de ayrışma göstermektedir. Hindistan ve Güney Afrika'nın NDC'leri sürdürülebilir kalkınmaya olan bağlılıklarını, teknoloji transferi ihtiyacını ve iklim hedeflerine ulaşmak ve uyum önlemlerini dahil etmek için uluslararası finansman ihtiyacını vurgulamaktadır. Her iki ülke de iklim değişikliğiyle mücadele genel hedefini paylaşırken, yaklaşımları kalkınma aşamalarından, kaynakların mevcudiyetinden ve özel zorluklardan etkilenen farklılıkları yansıtmaktadır. Hindistan'ın çeşitlendirilmiş yaklaşımı, ülkenin ekonomik büyümeyi çevre dostu uygulamalarla birleştirme arzusunu gösterirken, Güney Afrika'nın bölümlere ayrılmış planı, uyum ve azaltımı uyum içinde ele almak için sağlam bir çerçeve ortaya koymaktadır.

İkinci olarak, Hindistan'ın NDC'si GSYH emisyon yoğunluğunu 2005'ten 2030'a kadar %33 ila %35 oranında azaltmayı hedeflemektedir. Güney Afrika'nın NDC'si ise 2025 ile 2030 yılları arasında ülkenin emisyon gidişatına ilişkin bir dizi sera gazı emisyonu öngörmektedir. Son olarak, Hindistan'ın NDC'si, 2030 yılına kadar bu kaynaklardan %40 kümülatif kapasite hedefiyle fosil yakıt bazlı olmayan enerjiye öncelik vermektedir. Güney Afrika'nın NDC'si enerji dönüşümü için nicel bir hedefi açıkça belirtmemektedir; bunun yerine uyum önlemlerine odaklanmaktadır.

Hindistan ve Güney Afrika'nın güncellenmiş NDC'leri, iklim hedeflerini arttırma konusundaki ortak kararlılıklarını ortaya koymaktadır. Ülkeler, iklim değişikliğiyle mücadelenin değişen aciliyetini yansıtmak için önceki hedeflerini değiştirmiştir. Ayrıca, her iki ülke de iklim hedeflerini ilerletmek için benzersiz girişimlerde bulunmuştur. Son olarak, her iki ülke de emisyonların azaltılmasına yönelik taahhütlerini daha da güçlendirmiştir.

Benzerliklere rağmen, bu ülkelerin revize edilmiş NDC'leri arasında farklılıklar da bulunmaktadır. İlk olarak, Hindistan'ın güncellenmiş NDC'si, bireysel ve toplumsal katılımın önemini vurgulayarak LIFE hareketi aracılığıyla temel faaliyetleri birleştirmeyi vurgulamaktadır. Öte yandan, Güney Afrika'nın güncellenmiş NDC'si yasal çerçeveler, coğrafi modelleme ve sektöre özgü uyum girişimlerini içeren geniş

uyum önlemlerine odaklanmaktadır. İkinci olarak, Hindistan'ın revize edilmiş NDC'si fosil yakıt dışı enerji kapasitesi hedefini %40'tan %50'ye çıkararak sürdürülebilir bir enerji geçişini vurgulamaktadır. Buna karşılık, Güney Afrika'nın revize edilmiş NDC'si enerji geçişi için karşılaştırılabilir ölçülebilir bir hedefi açıkça belirtmemektedir; bunun yerine uyum ve azaltım faaliyetlerine odaklanmaktadır. Son olarak, Hindistan'ın güncellenmiş NDC'si tek ve belirli bir emisyon yoğunluğu azaltma hedefi verirken, Güney Afrika farklı zaman dilimleri için çeşitli azaltma hedefleri sunarak daha fazla esneklik sağlamaktadır.

İklim finansmanı konusunda bu ülkeler arasında pek çok benzerlik ve farklılık bulunmaktadır. İklim finansmanı hem Hindistan'a hem de Güney Afrika'ya ikili kanallar, uluslararası fonlar, kamu finansmanı ve daha az ölçüde özel sektör dahil olmak üzere çeşitli kanallardan sağlanmaktadır. İkinci olarak, her iki hükümet de iklim finansmanı programlarında uyum ve azaltım konularını ele alma ihtiyacını tanımlamaktadır. Çeşitli sektörler ve iklim değişikliği girişimleri için finansman gereksinimlerini hesaplamışlardır. Üçüncü olarak, Hindistan ve Güney Afrika iklim tedbirleri için iç finansman sağlamaktadır. Bu hedefe ulaşmak için özel programlar ve finansmanlar oluşturmuşlardır. Dördüncü olarak, GEF, GCF, AF ve MDB'ler gibi uluslararası kurumlar her iki ülkede de iklim değişikliğinin finansmanına yardımcı olmaktadır.

Karşıtlıklar açısından bakıldığında, Hindistan'ın iklim çabaları için öngördüğü mali gereksinimler Güney Afrika'nınkinden önemli ölçüde daha fazladır. Hindistan trilyonlarca dolara ihtiyaç olduğunu ileri sürerken, Güney Afrika'nın mali gereksinimleri milyonlarca ve milyarlarca dolar olarak ifade edilmiştir. İkinci olarak, Hindistan ve Güney Afrika'nın iki taraflı finansman sağlayan devlet sayısı farklıdır. Üçüncüsü, Hindistan kredi ve hibeleri içeren yerel finansmana olan güvenini vurgulamıştır. Öte yandan Güney Afrika, iklim finansmanının daha az bir kısmını oluşturan kredilerle birlikte, özellikle ikili kaynaklardan gelen hibelere dayanmıştır. Son olarak, her iki ülke de çeşitli alanlara ve programlara çeşitli fonlar tahsis etmiştir. Örneğin Hindistan tarım, ormancılık, balıkçılık ve altyapı alanlarındaki uyum çabalarını listelerken, Güney Afrika enerji verimliliği, yenilenebilir enerji ve atık yönetimi ile ilgili girişimleri vurgulamıştır.

Teknoloji transferi konusunda bu ülkeler arasında birçok paralellik ve zıtlık bulunmaktadır. Hem Hindistan hem de Güney Afrika, iklim teknolojisini kendi farklı çevresel ve sosyoekonomik koşullarına yerel düzeyde uyarlamanın önemini vurgulamıştır. Ülkeler, iklim sorunlarına yönelik herkese uyan tek tip çözümlerin etkisiz olduğunun farkına varmıştır. İkinci olarak, her iki ülke de azaltım ve uyum teknolojilerini belirlemiş ve önceliklendirmiştir. Hangi teknolojilerin kendi sektörleri ve talepleri için gerekli olduğunu tespit etmişlerdir.

Farklılıklar açısından, iki ülkenin teknoloji transferi gereksinimleri farklıdır. Güney Afrika 19 teknolojiye ihtiyaç duyduğunu belirtirken, Hindistan 12 teknolojiye ihtiyaç duyduğunu belirtmiştir. İkinci olarak, her iki ülke de teknolojinin benimsenmesi için çeşitli alanları değerlendirirken, öncelikleri farklılık göstermektedir. Güney Afrika sanayi, atık, tarım, biyoçeşitlilik, ormancılık, balıkçılık, insan yerleşimleri ve su konularını öne çıkarırken, Hindistan tarım, ormancılık, su ve sağlık alanlarını vurgulamıştır. Üçüncü olarak, her iki ülke de teknoloji transferinin önündeki engelleri kabul etmekle birlikte, bu sorunların üstesinden gelmeye yönelik yaklaşımları farklılık göstermektedir. Güney Afrika yasal ve düzenleyici yönergeler, uluslararası iş birliği, farkındalık yaratma, eğitim, teknik standartlar ve maliyet verimliliğine odaklanırken, Hindistan yeşil teknoloji patentlerini ve bunların ticarileşme düzeylerini izlemek için bir veri tabanı kurmayı teklif etmiştir.

Kapasite geliştirme konusunda Hindistan ve Güney Afrika arasında çok sayıda benzerlik ve farklılık bulunmaktadır. İklim değişikliğiyle etkili bir şekilde mücadele edebilmek için hem Hindistan hem de Güney Afrika tarım, ormancılık, balıkçılık, sağlık, enerji ve atık yönetimi gibi çeşitli alanlarda kapasite geliştirme ihtiyacının bilincine ulaşmıştır. İkinci olarak, her iki ülke de hava, iklim ve afet tahmin kabiliyetlerini artırma ihtiyacının farkına varmış, tahmin hassasiyetini ve erken uyarı sistemlerini güçlendirmeyi vurgulamıştır. Üçüncü olarak hem Hindistan hem de Güney Afrika, iklim değişikliğini hafifletme ve uyum sağlama konusunda kapasite geliştirme çabalarını artırmak için uluslararası iş birliği ve bilgi paylaşımının gerekliliğini vurgulamıştır. Son olarak, her iki ülke de uzun vadeli büyüme ve kalkınma için iklim değişkenliğini kendi sektörlerine dahil etmeye odaklanarak

kapasite geliştirme, eğitim sağlama ve farkındalığı artırma amacıyla hükümet girişimleri başlatmıştır.

Farklılıklarla ilgili olarak, iki ülkenin kapasite geliştirme gereksinimlerinde coğrafi farklılıklar bulunmaktadır. Hindistan'ın kapasite geliştirme gereksinimleri arasında Himalaya bölgesinin özel sorunlarının ele alınması, katastrofik hava olaylarının tahmin edilmesi ve enerji yönetim sistemleri yer almaktadır. Öte yandan, Güney Afrika'nın gereksinimleri arasında sera gazı envanterinin toplanması için teknik kapasitenin geliştirilmesi, kurumların iletişim kapasitesinin artırılması, teknik ve kurumsal yeteneklerin güçlendirilmesi, azaltım önlemleri hakkında teknik bilginin artırılması, yöntem, süreç ve yaklaşımların geliştirilmesi için ulusal kapasitenin artırılması ve raporlama için gerekli verilerin toplanması için teknik yeteneklerin geliştirilmesi yer almaktadır.

İkinci olarak, Güney Afrika teknik bilgi ve kurumsal güçlendirme ihtiyacını vurgularken, Hindistan daha çok uluslararası iş birliği, enerji yönetim sistemleri, hava tahmini ve iklim hizmetlerine odaklanmıştır. Dolayısıyla, Hindistan'ın yaklaşımı uluslararası iş birliği ve araştırma kurumlarına daha fazla bağlılık gösterirken, Güney Afrika öncelikle iklim verileri ve raporlama mekanizmaları için yerel teknik yeteneklerin geliştirilmesine odaklanmaktadır.

NDC'lerle ilgili olarak, her iki ülke de önemli benzerlik ve farklılıklara sahiptir. Öncelikle, Almanya ve ABD, enerji, tarım, atık, endüstriyel süreçler ve ürün kullanımı (IPPU) ve tarım ve ormancılık (LULUCF) dahil olmak üzere birçok ortak sektörü NDC'lerine dahil etmiştir. Bu sektörler sera gazı azaltım hedefleri için kritik öneme sahiptir. İkinci olarak, her iki ülkenin de 2020'nin ötesine uzanan uzun vadeli karbon azaltım hedefleri vardır. Almanya'nın NDC'si, emisyonları 1990 seviyelerine kıyasla %55 oranında azaltma hedefiyle 2030'a kadar uzanmaktadır ve ABD, emisyonları 2005 seviyelerinin %50-52 altına düşürmek için 2030 hedefi belirlemiştir. Son olarak, her iki ülke de revize edilmiş NDC'lerinde emisyonları azaltma hedeflerini ilk taahhütlerine kıyasla yükseltmiştir. Almanya hedefini %40'tan en az %55'e çıkarırken, ABD hedefini 2025'e kadar 2005 seviyelerinin %26-28 altından 2030'a kadar 2005 seviyelerinin %50-52 altına yükseltmiştir.

Benzerliklere rağmen farklılıklar da vardır. İlk olarak, Almanya'nın NDC'si karbon azaltımı için 1990 yılını temel yıl olarak belirlemiştir ve bu da ülkenin tarihsel emisyonlarını yansıtmaktadır. Öte yandan ABD, daha yeni olan ve farklı bir tarihsel geçmişi yansıtan 2005 yılını temel yıl olarak kabul etmiştir. İkinci olarak, Almanya 2020 ve 2030 hedeflerini sunarken, ABD 2020, 2025 ve 2030 hedeflerini sunmuştur. Üçüncü olarak, 2019 sonu itibariyle AB ve Almanya dahil üye ülkeler emisyonlarını önemli ölçüde azaltmışlardır. Buna karşılık ABD, 2020 hedefini 2005 seviyelerinin %17 altına düşürerek gerçekleştirebileceğini ve ülkenin 2025 hedefinin daha fazla çaba gerektireceğini tahmin etmiştir. Son olarak, bir AB üyesi olarak Almanya'nın NDC'si AB iklim politikası ve hedefleriyle tutarlıdır. AB ortak bir yasal yapıya ve politika koordinasyonuna sahiptir. Bunun aksine, ABD'nin iklim politikası konusundaki tutumu yönetimler arasında farklılık göstermektedir.

Finansmanla ilgili benzerlik ve farklılıklardan bahsetmek gerekmektedir. İlk olarak hem Almanya hem de ABD, sera gazı emisyonlarını azaltma ve iklim değişikliğinin etkilerine uyum sağlama konusunda ülkelere yardımcı olmak amacıyla gelişmekte olan ülkelere iklim finansmanı sağlama konusunda kararlıdır. Bu ülkeler, küresel iklim felaketiyle mücadelede finansmanın önemini kabul etmektedir. İkinci olarak, her iki ülke de iklim finansmanını ikili ve çok taraflı kanallar aracılığıyla dağıtmıştır. Ülkeler, gelişmekte olan ülkelerle doğrudan ikili bağlar kurmuş ve uluslararası iklim fonlarına ve örgütlerine katkıda bulunmuştur. Üçüncü olarak, her iki ülke de iklim finansmanını çoğunlukla ikili kanallar aracılığıyla sağlamıştır. Son olarak hem Almanya hem de ABD, gelişmekte olan küçük ada devletleri (SIDS) ve az gelişmiş ülkeler (LDC) gibi iklim değişikliğinden özellikle etkilenen hassas bölgelere ve nüfuslara yardım edilmesi gerektiğinin altını çizmiştir.

Benzerliklerin yanı sıra farklılıklar da bulunmaktadır. İlk olarak, 2019-2020 mali yılında Almanya ikili ve çok taraflı fonlarla yaklaşık 10,5 milyar dolar sağlarken, ABD yaklaşık 3,34 milyar dolar sağlamıştır. İkinci olarak, ABD iklim finansmanı çabalarında üç temel alanda destek sağlamıştır: adaptasyon, yenilenebilir enerji ve sürdürülebilir bir çevre. Almanya'nın kilit alanları ise uyum tedbirleri, tarımsal uyum, gıda güvenliği, su yönetimi ve risk yönetimi araçları olarak belirtilmiştir.

Kapasite geliştirmeye ilişkin benzerlik ve farklılıklardan bahsetmek gerekmektedir. İlk olarak hem Almanya hem de ABD iklim değişikliği ile mücadeleye yönelik küresel girişimlere katılmışlardır. Bu ülkeler dünyanın dört bir yanındaki ortak ülkelere kapasite geliştirme konusunda yardımcı olmuştur. İkinci olarak, her iki ülke de iklim ve sürdürülebilirlikle ilgili alanlarda kapasiteyi güçlendirmek için uluslararası kuruluşlar ve ortaklarla birlikte çalışmıştır. Ülkeler, hükümetler, sivil toplum, akademi ve ticari sektörler de dahil olmak üzere çeşitli paydaşlarla iş birliği yapmıştır. Üçüncü olarak, her iki ülke de hem iklim azaltımı hem de adaptasyon için kapasite geliştirmeyi vurgulamıştır. Son olarak, Almanya ve ABD kapasite geliştirme projelerini ortak ülkelerin bireysel gereksinimlerine ve hedeflerine göre özelleştirmiştir.

Benzerliklere rağmen farklılıklar da mevcuttur. Her şeyden önce, Almanya'nın kapasite geliştirme yardımı çeşitlilik göstermekte ve Asya, Afrika, Balkanlar ile Orta ve Güney Amerika bölgelerine yoğunlaşmaktadır. Buna karşılık ABD'nin girişimleri Güney Amerika ve Pasifik bölgesini de kapsayan daha geniş bir coğrafi alanı kapsamaktadır. İkinci olarak, kapasite geliştirme desteğinin miktarı ve spesifikliği açısından Almanya, partner ülkelere ABD'den daha fazla kapasite geliştirme yardımı sağlamıştır. Son olarak, Almanya NDC'nin geliştirilmesi ve uygulanması için kapasite geliştirme desteği sağlarken, ABD ulusal uyum planlarına (NAP) destek olmuştur.

NDC'ler, finansman ve kapasite geliştirmenin yanı sıra, iki ülkenin teknoloji transferi alanında yakınlaştığı ve ayrıştığı alanlara dikkat çekmek de önemlidir. Benzerliklere bakıldığında, iklim teknolojisi Almanya ve ABD'nin uluslararası kalkınma girişimleri için hayati önem taşımaktadır. Ülkeler, partner ülkelere teknolojik çözümler yoluyla iklim değişikliği sorunlarının üstesinden gelmelerinde yardımcı olmayı istemektedir. İkinci olarak, her iki ülke de enerji verimliliği, ulaşım, atık yönetimi, yenilenebilir enerji, kırsal kalkınma ve akıllı şehirler gibi belirli alanlara yönelik teknolojik desteğe öncelik vermiştir. Bu sektörel odaklanma, iklim teknolojilerinin uygulanmasına yönelik pragmatik bir yaklaşımı temsil etmektedir.

Benzerliklerin yanı sıra bazı farklılıklar da bulunmaktadır. İlk olarak, Almanya'nın iklim teknolojilerine yönelik mali yardımları genellikle Federal Ekonomik İş birliği

ve Kalkınma Bakanlığı (BMZ) aracılığıyla kanalize edilirken, ABD çeşitli programlar ve kurumlar aracılığıyla fon sağlamıştır. İkinci olarak, Almanya Arnavutluk, Hindistan, Senegal, Özbekistan, Çin, Tayland, Meksika ve Kolombiya gibi belirli ülkelere teknoloji transferi konusunda yardımcı olmuştur. ABD ise daha geniş bir coğrafi kapsama alanına sahip olup Afrika ve Güneydoğu Asya gibi bölgelerin yanı sıra Kolombiya, Hindistan ve Kenya gibi münferit ülkelere de yardım etmiştir. Son olarak ABD, SERVIR, SilvaCarbon, CTSL ve Afrika Yeraltı Suyu Araştırma ve Değerlendirme Programı da dahil olmak üzere daha geniş bir uluslararası program yelpazesine dahil olmuştur. Almanya ise ortak ülkelere ikili ve proje bazlı yardım sağlamıştır. Dolayısıyla ABD, Almanya'dan daha fazla ülkeye teknoloji transferi desteği sağlamıştır.

Karşılaştırmalı analiz sonrasında Hindistan, Güney Afrika, Almanya ve ABD'nin COP 1'den COP 28'e kadar iklim konularına ilişkin tartışmaları ve yaklaşımları incelenmiştir. COP toplantılarında bu dört ülkenin incelenmesi, ulusal öncelikler ile uluslararası iklim sorumluluklarının dengelenmesinin karmaşık doğasını göstermektedir. Çeşitli sosyoekonomik kalkınma ve jeopolitik gücü bünyesinde barındıran bu dört ülke, küresel iklim yönetişiminin şekillenmesinde etkili olmuştur. Bu tez, her ülkenin iklim politikalarını, taahhütlerini, ulusal önceliklerini ve zaman içindeki müzakere tutumlarını analiz ederek bu ülkelerin küresel iklim yönetişimini nasıl etkilediklerini ve buna nasıl reaksiyon gösterdiklerini ortaya koymuştur.

Hindistan, BMİDÇS toplantılarında zorlu bir müzakereci olmuş, finansman, kapasite geliştirme ve teknoloji transferi konularında gelişmiş ülkelerle sık sık mücadele etmiştir. Hindistan ve koalisyonlarının BMİDÇS toplantılarında ortaya koyduğu iklim sorunları şu şekilde özetlenebilir: Finansman, teknoloji transferi ve kapasite geliştirmenin öneminin altını çizmişlerdir, Ek I tarafları ile diğer taraflar arasında eşitlik olmadığına dikkat çekmişlerdir, CBDR'yi vurgulamışlardır, uyumsuzluk için yasal olarak uygulanabilir sonuçları desteklemişlerdir, hem azaltım hem de uyum girişimleri için destek çağrısında bulunmuşlardır, gelişmekte olan devletlerin kalkınma hedeflerinin sınırlandırılması girişimlerine karşı çıkmışlardır, gelişmiş devletleri iklim taahhütlerini yerine getirmeye çağrıda bulunmuşlardır, sadece Ek I devletleri üzerinde daha derin yükümlülükler olması gerektiğini vurgulamışlardır,

destek girişimleri için yeterli olması gerektiğine dikkat çekmişlerdir ve Ek I sera gazı emisyonlarının artması konusundaki endişelerini dile getirmişlerdir.

Güney Afrika, Hindistan'a kıyasla sert bir müzakereci olmamış ve gelişmiş ülkelerle uyumlu bir duruş sergilemeye daha meyilli olmuştur. Güney Afrika ve koalisyonlarının BMİDÇS toplantılarında ortaya koyduğu iklim sorunları şöyle özetlenebilir: İklim değişikliği ve diğer konular arasındaki ilişkiyi vurgulamışlardır, iklim değişikliğinin olumsuz sosyal ve ekonomik etkilerine dikkat çekmişlerdir, Afrika ülkelerinin kırılganlığına vurgu yapmışlardır, azaltım ve uyum için mali ve teknik yardım eksikliğine işaret etmişlerdir, gelişmiş devletlerin öncülük etmesi ve iklim taahhütlerini ilerletmesi gerektiğini tekrar teyit etmişlerdir ve CBDR kavramını vurgulamışlardır. Ayrıca, teknoloji transferi konularının ele alınmasının gerekliliğinin altını çizmişlerdir, GEF fonlarına erişimdeki zorlukları vurgulamışlardır, kapasite geliştirme taahhüdünün eksikliğine dikkat çekmişlerdir, kapasite geliştirme ve CDM projelerinin eşitsiz dağılımını eleştirmişlerdir, azaltım, uyum, uygulama, finansman ve teknoloji boşluklarını vurgulamışlardır, finansal ve destek şeffaflığı zorluklarını vurgulamışlardır, hibe bazlı finansman ihtiyacını vurgulamışlardır, gelişmiş ülkeleri iklim finansmanı taahhüdünde bulunmaya zorlamışlardır ve finansal, teknolojik ve kapasite geliştirme taahhütlerinde şeffaflığın altını çizmişlerdir.

Almanya, ortak bir zemin oluşturmak için gelişmiş ve gelişmekte olan ülkelerle iş birliği yapmaya istekli, tarihsel sorumlulukları kabul eden ve daha yapıcı bir müzakereci olmuştur. Almanya ve AB'nin BMİDÇS toplantılarında gündeme getirdiği iklim konuları başlıca şu şekilde özetlenebilir: Gelişmiş ve gelişmekte olan devletlerin sera gazı emisyonlarını hızla azaltmaları gerektiğini vurgulamışlardır, Ek I taahhütlerinin yetersizliğine dikkat çekmişlerdir, teknolojik ihtiyaçların belirlenmesinin gerekliliğini vurgulamışlardır, hem gelişmiş hem de gelişmekte olan devletler için gerçekçi ve ulaşılabilir iklim hedefleri çağrısında bulunmuşlardır, ulusal bildirimlerin ve bunların gözden geçirilmesinin öneminin altını çizmişlerdir, küresel ısınma konusunda gelişmiş ülkelerin inisiyatif aldığını vurgulamışlardır, isteğe bağlı taahhütler yerine anlaşmaları tercih etmişlerdir, azaltım faaliyetlerine odaklanılması gerektiğini vurgulamışlardır, etkili bir uyum mekanizması

oluşturulması çağrısında bulunmuşlardır, donör ülkeleri GEF'e katkıda bulunmaya zorlamışlardır ve Ek I ülkelerinin ayrı bir rapor sunmasını önermişlerdir.

Ayrıca teknoloji transferini teşvik etmek için uluslararası işbirliğinin öneminin altını çizmişlerdir, ülke liderliğinde strateji ve finansman önermişlerdir, azaltım ve uyum teknolojileri için dengeli bir yaklaşımı teşvik etmişlerdir, fikri mülkiyet haklarının teknoloji transferinin önündeki temel engel olmadığını beyan etmişlerdir, iklim finansmanını artırma niyetlerini belirtmişlerdir, bir toplumsal cinsiyet eylem planı benimsemenin ve yerel topluluklar ve yerli halklar için bir girişim başlatmanın önemini vurgulamışlardır, şeffaflık çerçevesinin güçlendirilmesinin ve NDC'ler için tutarlı bir zaman çizelgesinin altını çizmişlerdir, Yurtiçi taahhütlerin yerine getirilmesinin gelişmiş ülke uyumunun birincil hedefi olması gerektiğini vurgulamışlardır, CDM süreçlerinin basitleştirilmesi çağrısında bulunmuşlardır, uyum, azaltım, REDD+, teknoloji ve kapasite geliştirme girişimlerini desteklemek için 100 milyar Avro'ya ihtiyaç duyulduğunun altını çizmişlerdir, 2020 yılına kadar yıllık 100 milyar Avro'yu harekete geçirme taahhüdünü yinelemişlerdir, INDC raporlamasının şeffaflığının, ölçülebilirliğinin ve karşılaştırılabilirliğinin önemini vurgulamışlardır ve mevcut kapasite geliştirme prosedürlerinin ve yapılarının güçlendirilmesi çağrısında bulunmuşlardır.

Son olarak, ABD daha az aktif bir müzakereci olmuştur ve sıklıkla iklim eylemlerine şüpheyle yaklaştığı görülmektedir. ABD ve Şemsiye Grubu'nun BMİDÇS toplantılarında gündeme getirdiği iklim konuları başlıca şu şekilde özetlenebilir: SAR'ın bilimsel kanıtların en kapsamlı incelemesi olduğunu belirtmişlerdir, teknoloji transferi bilgi merkezi kurulması çağrısında bulunmuşlardır, yasal olarak uygulanabilir bir anlaşmanın oluşturulmasını desteklemişlerdir, derin emisyon azaltımlarının gerekliliğini vurgulamışlardır, CBDR ilkesinin öneminin altını çizmişlerdir, fikri mülkiyet haklarının teknoloji transferinin önündeki birincil engel olmadığını savunmuşlardır, küresel şeffaflık çerçevesini desteklemişlerdir, teknik ve idari konularda netlik talep etmişlerdir, esneklik mekanizmalarının gerekliliğini vurgulamışlardır ve tüm taraflarca verilen taahhütlerin çevreyi korurken ekonomik büyüme için alan sağlaması gerektiğini vurgulamışlardır.

Ayrıca ülke, etkili bir uyum çerçevesinin geliştirilmesini desteklemişlerdir, uygun maliyetli mekanizmaların geliştirilmesini teşvik etmişlerdir, çevrenin korunması için ekonomik kalkınmayı desteklemişlerdir, kamu-özel sektör ortaklığına dikkat çekmişlerdir, ülkelerin ulusal koşullarının incelenmesi gerektiğini belirtmişlerdir, tüm taraflarca yasal olarak uygulanabilir bir anlaşma için baskı yapmışlardır, SCF ve GEF'e özel sektör katılımını desteklemişlerdir, uyum önlemlerinin artırılması ihtiyacına dikkat çekmişlerdir, CDM'ye katılım için uyum ve uygunluk arasındaki ilişki hakkındaki endişelerini dile getirmişlerdir, teknoloji geliştirme ve transferinin azaltım ve uyum için daha geniş bir planın parçası olarak ele alınması gerektiğini vurgulamışlardır, sözleşme kapsamında kurulan mevcut kuruluşların güçlendirilmesini desteklemişlerdir, ulusal uyum planlama prosedürlerinin odağının genişletilmesini desteklemişlerdir, GCF'nin faaliyetlerinin güvence altına alınmasında özel sektörün önemini vurgulamışlardır ve gelişmekte olan ülkelerin net sıfır geçişlerine yardımcı olmada finansmanın temel rolünün altını çizmişlerdir.

Sonuç olarak, Hindistan, Güney Afrika, Almanya ve ABD'nin BMİDÇS toplantılarındaki farklı iklim değişikliği yaklaşımları ve tutumları, uluslararası iklim müzakerelerinin karmaşıklığını ortaya koymakta ve kritik iklim konularında küresel bir uzlaşı sağlanmasının zorluklarını vurgulamaktadır. Bu dört ülkenin ulusal öncelikleri ve koşulları, iklim değişikliği konusundaki yaklaşımlarını belirlemekte ve COP toplantılarındaki katılımlarını şekillendirmektedir. Ayrıca, bu dört ülkenin farklı yaklaşımları, iklim değişikliğinin dünyanın farklı bölgelerinde farklı şekillerde algılandığını ve bu ülkelerin iklim değişikliğinden farklı şekillerde etkilendiğini yansıtmaktadır. Bu nedenle, bu farklılıklar, iklim müzakerelerinde tartışılan farklı ihtiyaçların ele alınması gerekliliğini ortaya koymaktadır.

Bununla birlikte, BMİDÇS müzakereleri birçok konuyu kapsamaktadır. Bu konular, anlamlı bir iklim eylemi sağlama ve BMİDÇS çerçevesinde uzlaşıya ulaşma çabalarındaki zorlukları net bir şekilde ortaya koymaktadır. Geniş bir araştırma yelpazesi, yavaş ilerleme, kurumsal verimsizlikler ve teknik engeller nedeniyle iklim yönetişimi ve politikası alanındaki zorlukların altını çizmektedir. Bu nedenle, birçok yazar, verimliliği, hesap verebilirliği ve şeffaflığı artırmak için BMİDÇS'nin reformlara ihtiyaç duyduğunu savunmaktadır. Bu bağlamda, tez, bu ülkelerin

BMİDÇS müzakerelerindeki tutumlarını etkileyen temel ulusal çıkarlar, tarihsel yükümlülükler ve ekonomik eşitsizliklerin karşılaştırmalı bir analizine vurgu yapmaktadır. Ayrıca, literatürde bu ulusal çıkarların sunumlar, müzakereler ve iklim taahhütlerindeki yansımalarının kapsamlı bir karşılaştırmalı analizi büyük ölçüde ihmal edilmiştir. Bu tez, özellikle Hindistan, Güney Afrika, Almanya ve ABD'nin vaka analizleri üzerinden, Ek I ve Ek I dışı ülkeler arasındaki temel karmaşıklıkları belirgin bir şekilde vurgulayarak mevcut akademik literatüre özgün bir katkı sunmaktadır.

İklim hedeflerindeki ve ihtiyaçlarındaki farklılıklar, çok farklı ihtiyaçlara ve önceliklere sahip ekonomiler arasında iklim çabalarının koordine edilmesinin zorluklarını ortaya koymaktadır. Seçilen ülkelerin iklim yaklaşımları ve COP toplantıları, ekonomik düzeyin ve ulusal çıkarların iklim müzakerelerindeki tutumları etkilediğini göstermektedir; gelişmiş ülkeler emisyonları azaltmaya daha fazla odaklanırken, gelişmekte olan ülkeler eşitlik ve destek konularını vurgulamaktadır. Ayrıca, iklim liderliğindeki boşluk, önemli küresel aktörlerden tutarlı ve birleşik bir liderliğin önemini vurgulamaktadır, çünkü bu eksiklik, iklim değişikliğiyle mücadele için gerekli olan küresel ivmeyi azaltmaktadır.

Son olarak, bu tez, etkili bir iklim yönetişiminin yalnızca iş birliğine yönelik biçimsel yaklaşımları değil, aynı zamanda tarafların küresel iklim eylemine katılımını tanımlayan güç eşitsizliklerinin ve temel sistemik sorunların çözümüne yönelik bir taahhüdü gerektirdiğini savunmaktadır. Neoliberal kurumsalcı teoriye göre, UNFCCC gibi kurumlar iş birliğini teşvik etmek için kritik bir öneme sahiptir, ancak etkileri sıklıkla derin güç ilişkileri tarafından sınırlanmaktadır. Tüm tarafların anlamlı bir şekilde katılım sağlamasına ve ulusal ve uluslararası yükümlülüklerini yerine getirmesine olanak tanıması için, güç eşitsizliklerinin azaltılması ve yeni iklim zorluklarına dinamik bir şekilde uyum sağlanması, daha adil bir çerçeveye yönelik önemli adımlar atılması gerekmektedir. Ayrıca, neoliberal kurumsalcılık, kurumların, özellikle yeni talepler ortaya çıktığında ve iklim sorunları yoğunlaştığında, duyarlı ve geçerli kalabilmeleri için dönüşüm geçirmeleri gerektiğini vurgular. Bu bağlamda hem mevcut hem de yeni eşitsizlikleri ele almak ve iş birliğine dayalı çerçevelerin karşılıklı fayda sağlayan doğasını sürdürmek için kurumsal süreçlerin dönüştürülmesi kritik bir önem taşımaktadır.

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