CLIMATE CHANGE POLICIES OF GERMANY, CHINA, THE UNITED STATES AND TURKEY: A COMPARATIVE ANALYSIS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF INTERNATIONAL RELATIONS

AUGUST 2018

Approval of the Graduate School of Social Sciences

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ABSTRACT

CLIMATE CHANGE POLICIES OF GERMANY, CHINA, THE UNITED STATES AND TURKEY: A COMPARATIVE ANALYSIS

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August 2018, 130 pages

This thesis explores the climate change policies of Germany, China, the United States and Turkey and subsequently provide a comparative perspective on climate change policies before and after the Paris Agreement. The core research question is how policies on global climate change were shaped before and after the Paris Agreement, regarding their triggering points during the process of shaping recent environmental regimes. Regarding this question, the main argument of this thesis is that even climate change policies of countries could be categorized into cooperative and obstructive policies, this thesis argues that climate change policies of countries reflect domestic, economy, the environment, and energy priorities of countries, as well as, their external relations with major players in global climate change regimes.

This thesis provides an analysis compromising of seven main chapters. Following the Introduction chapter, the second chapter will covers an analysis of global climate change regime. In the subsequent chapters, the policies of Germany, China, US and Turkey are explored separately in order to provide a comparative analysis. The

subsequent chapter will demonstrate a conclusion chapter from explorations. The subsequent chapter will demonstrate a conclusion chapter from explorations.

Keywords: Climate Change, Paris Agreement

ÖZ

ALMANYA, ÇİN, AMERİKA BİRLEŞİK DEVLETLERİ VE TÜRKİYE'NİN İKLİM DEĞİŞİKLİĞİ POLİTİKALARI: KARŞILAŞTIRMALI BİR ANALİZ

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Yüksek Lisans, Uluslararası İlişkiler Bölümü
Tez Yöneticisi: Prof. Dr. Oktay Fırat TANRISEVER

Ağustos 2018, 130 sayfa

Bu tez Almanya, Çin, Amerika Birleşik Devletleri ve Türkiye'nin iklim değişikliği politikalarını incelemekte ve akabinde Paris Anlaşması öncesi ve sonrası olarak karşılaştırmalı bir perspektif sağlamaktadır. Öz araştırma sorusu, iklim değişikliği rejiminin oluşumunda tetikleyici noktalarına ilişkin, iklim değişikliği politikalarının Paris Anlaşması öncesi ve sonrası nasıl şekillendiğidir. Bu soruya ilişkin, bu tezin ana argümanı ülkelerin iklim değişikliği politikaları işbirlikçi ya da engelleyici olarak tanımlanabilirse de, bu tez iklim değişikliği politikalarının iç, ekonomi, çevre ve enerji önceliklerini, hem de diğer ana aktörlerle ilişkilerini yansıttığıdır.

Bu tez yedi ana ilişik bölüm sağlamaktadır. Giriş bölümünü takiben, ikinci bölüm küresel iklim değişikliği rejimi konusunda bir analiz içermektedir. İzleyen bölümlerde, Almanya, Çin, Amerika Birleşik Devletleri ve Türkiye'nin iklim değişikliği politikaları ayrı ayrı karşılaştırmalı bir perspektif sunmak için araştırılacaktır. İzleyen bölüm, araştırmalardan bir sonuç bölümü sunacaktır.

Anahtar Kelimeler: İklim Değişikliği, Paris Anlaşması

ACKNOWLEDGEMENTS

I wish to express my deepest gratitude to my supervisor Prof. Dr. Oktay Fırat TANRISEVER for his guidance, patience, constructive advices, critical eye and encouragements throughout this research. He was always there to help me with his immense knowledge.

I wish would also like to thank the members of thesis committee; Assoc. Prof. Dr. Burak TANGÖR and Academic Staff Dr. Zerrin TORUN for their suggestions and comments.

Moreover, I would also like to thank my supervisors in United Nations Development Programme for their support, assistance and answering my all questions patiently during this process.

Lastly, but not least, I am indebted to my grandparents and parents, as well as, my brother Ercüment Okutan, who supported me to pursue my goals. I also wish to express my thanks to Bahadir Bicer for being there and encouraging me at every stage of this research.

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LIST OF ABBREVIATIONS

BDI	German Industry Federation
CAFE	Corporate Average Fuel Economy
CDM	Clean Development Mechanism
CMA	China Meteorological Administration
CNCCP	China's National Climate Change Programme
COP	Conference of Parties
DAS	German Strategy for Adaptation to Climate Change
EPA	The Environmental Protection Agency
ETR	Ecological Tax Reform
EU	The European Union
EU ETS	EU Emission Trading Scheme
GHG	Greenhouse Gas
GNEP	Global Nuclear Energy Partnership
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
NDRC	National Development and Reform Commission
NEAP	National Environmental Action Plan
NZEC	China-EU Near Zero Emission Coal
SEPA	State Environmental Protection Administration
UNCED	United Nations Conference on Environment and Development
UNFCCC	United Nations Framework Convention Climate Change
US	United States
WMO	World Metrological Organization

CHAPTER 1

INTRODUCTION

1.1. Scope and Objectives

This thesis seeks to examine climate change policies of Germany, China, the United States (US) and Turkey from a comparative analysis in order to explore the scopes of convergent and divergent policies. During the examination, the study will explore the comprehensive strategies of the four countries regarding climate change policies and subsequently provide a comparative perspective on climate change policies before and after the Paris Agreement. It is expected to find that even countries that promote the Paris Agreement within the scope of climate change policies, their progress and preferences through climate change regimes are expected to vary across countries, even among those parties committed to the Paris Agreement. This study will examine the questions behind how policies on global climate change were shaped before and after the Paris Agreement, regarding their triggering points during the process of shaping recent environmental regimes. Overall, contrary to arguments made by several scholars who argue that climate change policies of countries could be categorized into cooperative and obstructive policies, this thesis argues that climate change policies of countries reflect domestic economies, the environment, and energy priorities of countries, as well as, their external relations with major players in global climate change regimes.

This study focuses on climate change policy initiatives of Germany, China, US and Turkey within their positions in international environmental regimes, by focusing on agreements, institutions and their participation and cooperation into these formations, in order to discover their priorities through neo-liberal lenses. It should be noted that even though the Paris Agreement is supported by the majority of countries, it is

difficult to present any of the parties engaged in the climate change regime, as either wholly cooperative or wholly obstructive throughout the climate change regime. In addition, this study seeks to examine the motivations behind priorities of countries in climate change policies which are parallel to their principles in policies related to the economy, the environment and energy, as well as, their reciprocal relations with major players in climate change regimes.

Furthermore, this thesis is expected to demonstrate that developing countries' climate change priorities reflect their concerns in foregrounding strategies from growing their economy by non-harmful development strategies, to their bilateral relations with other climate change partners. Indeed, the priorities of Germany, China, US and Turkey will be evaluated separately in the following chapters, in order to produce a comparative analysis in conclusion. The differentiation in the priorities of these countries and their justifications in which they participate in international conventions, agreements and institutions, in order to fulfil their seats in cooperation will be analysed.

1.2. Review of Literature

From early evaluation to recent developments, the topic of climate change has always been the global concern of humanity in its entirety, and climate change policies are affected not only by the different national initiatives of developed and developing countries, but also by their different domestic priorities in economics, the environment and energy regarding their cooperation in environmental regimes.

In this scope, Oran Young and Gail Osherenko's joint definition of international regime, consists of activities in specific areas which are affected by norms, principles, as well as, decision making processes. Besides, the authors believe regimes can change the actions of actors in social practices.[1]

[1] Oran R. Young and Gail Osherenko, *Polar Politics: Creating International Environmental Regimes* (Cambridge: Cornell University Press, 1993), p. 1.

Thus, even though most of the global engagements of countries are independent, their priorities change regarding common interests and capacities. In line with this argument, climate change policies and their reflection on countries' national and international policies cannot be separated. Ultimately, the objective of this thesis is to initiate a "complex interdependence theory" to refer to domestic and bilateral relations over climate change regime through neo-liberal lenses.

Within this context, a "complex interdependence theory" is illustrated by Keohane and Nye in *Power and Interdependence* and according to this theory the traditional IR theories overestimates the characteristics of the three main scopes, in terms of multiple channels including interstate, trans-governmental and transitional relations that connects societies, the issues of interstate relations within an absence of hierarchy and lastly, military force which is not used against other governments under complex interdependence.[2] According to authors, these three dimensions can be seen in some global affairs specifically in the areas of economics and ecology.[3] At this point, global climate change polices construct multiple channels for governments to negotiate. Also, global diplomacy on climate change consists of several targets which cannot be explained by military force. It can be deduced, commitments and agreements can illustrate the domestic targets of countries in these complex interdependence channels.

From this position, according to further study by Keohane and Victor,

> "States construct international regimes on the basis of their interests. Under conditions of complex interdependence, state interests will reflect the interests of the major constituencies that exert influence over state leaders. The weighting of these interests in determining international outcomes depends on the power resources, relevant to the issue-area, that are available to the states involved. Power will reflect asymmetrical interdependence: bargaining power will depend both on the impact of one's own

[2] Robert O. Keohane and Joseph S. Nye, JR, *Power and Interdependence* (Boston: Pearson Education, 2012), p. 20-21.

[3] Robert O. Keohane and Joseph S. Nye, JR, *Power and Interdependence* (Boston: Pearson Education, 2012), p. 21.

> decisions on others (a reflection of size) and on favorable asymmetries in interdependence leading to better default (no-agreement) positions for the state".[4]

Additionally, Keohane and Victor, in "The Regime Complex for Climate Change", illustrate that initiatives of countries are shaped by their capacities, and these capacities identify their actions whether having bargaining power or no-agreement positions. However, these positions can change over time when the regime transforms itself by regime complex. In addition, it should be noted that capacities of countries can change, and climate change regimes may be transformed into different bodies in different rates over time in a myriad of countries. Furthermore, in relation to this point, the authors reconcile that changing interests can lead to transformation of beliefs and actions of countries in international institutions.[5] Following analysis, it is observed that domestic policies of countries can be affected by regime complex and countries preferences diversify over time, as climate change has paved the way for a new regime after the Paris Agreement, and climate change policy principles vary in relation to countries' national and international priorities.

Furthermore, industrial countries are still not equipped to find coherent linkages and compensation policies in relation to the formation of global cooperation among major players. For this reason, as regimes have been constructed in order to carry out the realization of the state's national initiatives and taking advantage of being proactive in the process, regimes also "help states achieve their objectives through reducing contracting costs, providing focal points, enhancing information and therefore credibility, monitoring compliance, and assisting in sanctioning deviant behavior".[6] From this route, climate change cooperation can reduce risks in compensation power and construct new types of relations and while the contradiction with initiatives persists, the norms, rules and principles become hard to realize.

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[4]Robert O. Keohane and David G. Victor, "The Regime Complex for Climate Change," prepared for The Harvard Project on International Climate Agreements, discussion paper 10, no 33, (2010), p. 3.

[5] Keohane and Victor, "The Regime Complex for Climate Change," p. 12.

[6] Keohane and Victor, "The Regime Complex for Climate Change," p. 8.

These definitions were re-read by a neo-realist approach and criticized by lack of distribution of capabilities. Stephen Krasner in "Structural Causes and Regime Consequences: Regimes as Intervening Variables" clarifies the regimes as;

> "…sets of implicit or explicit principles, norms, rules, and decision-making ... which actors' expectations converge in a given area of international relations. Principles beliefs of fact, causation, and rectitude. Norms are standards of behavior defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for actions. Decision-making procedures are prevailing practices for making and implementing collective choice".[7]

Krasner's definition of international regimes, reflects that priorities of countries that are shaped by national gains. Also, according to his definition, by looking at climate change regime, countries' decision-making practices regarding national gains, outweigh international norms, principles and collective mitigation targets. Furthermore, he clarifies that changes in norms and principles can change the regime itself and there can be a new regime or loss of regimes.[8] After the Paris agreement, it can be illustrated that there were changes in states' priorities in terms of global climate change regime.

In contrast, it is possible to state that cooperation through social institutions is affecting states' decision-making procedures through social norms and principles such as United Nations Framework Convention on Climate Change (UNFCCC) process. Interestingly, David Victor in *Climate Change: Debating America's Policy Options* argues that UNFCCC process was the "ultimate objective". Victor mentions that UNFCCC was ultimately ended by the interests of governments, because industrial-countries agreed to control emissions, however, they did not compromise

[7]Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in *International Organization* 36, no. 2, (Cambridge: The MIT Press, 1982), p. 186

[8] Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," p. 186.

to carry the burden of certain mitigation targets and to distribute responsibilities.[9] With this in mind, it is possible to illustrate that domestic principles of countries in other areas can reflect their privileges in the issue of climate change.

Karen Mingst argues in Essentials *of International Relations* on neo-liberal institutionalism, cooperation leads to repeated interactions between nation states urged by national self-interests to cooperate. Also, she explains that the institutions may encourage nation states to cooperate for future strategies. These interests urge them to be part of the international community and transform into other gains in the international community.[10]

Due to the above mentioned comments, countries are urged to participate in climate change policies for future interests in relations to develop strategies. Regarding this argument, by referring to Semra Cerit Mazlum, international regimes in relation to climate change, impact countries at various levels and effects. She highlights the importance of regime effectiveness in order to sustain international response and self-involvement of countries. In this regard, she argues that preferable policies behind climate change are directed by growth in economies.[11]

Additionally, according to Keohane and Oppenheimer, the Paris Agreement will be considered successful if it triggers governments to change their actions by actors such as the business sector or individuals. Furthermore, the authors highlight that there are inconsistency of policies because leaders and actors have distinctive

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[9] David Victor, *Climate Change: Debating America's Policy Options* (New York: Brookings Institution Press, 2004), p. 2.

[10] Karen A. Mingst, *Essentials of International Relations* (New York / London: W.W.Norton and Company, 2003), p. 65.

[11] Semra Cerit Mazlum, "Turkey's Foreign Policy on Global Atmospheric Commons," in *Climate Change and Foreign Policy: Case Studies from East to West*, ed Paul G. Harris (London: Routledge, 2009), p. 68-69.

interests, and countries or climate coalitions have different degrees of power and some of them are more vulnerable to the causes of climate change than others.[12]

Furthermore, governments have several policies that lead them to participate in climate regime and to answer pressures from actors on climate change policies in relation to Keohane and Oppenheimer's argument; the five points are:

1- To make changes in energy systems in order to support domestic policies to reduce emissions
2- To answer pressure from domestic support groups
3- To take advantage of other players in terms of reciprocity
4- To take advantage in diverse areas from other states and civil societies, such as to take support from great powers
5- To influence domestic support groups or create global reputation.[13]

According to the authors, countries participate in the Paris Agreement because of the above motivations. Since the Paris Agreement demanded various obligations in relation to countries' pledges, there are several advantages relating to reputation and reciprocity. On the other hand, not being part of the Agreement may lead to a decline in reputation and therefore, costs of resistance to the Agreement are higher than to participate.[14]

Beside Keohane and Oppenheimer's argument, Putnam's "two level game theory" mentions how to integrate domestic policies with international policies. According to

[12] Robert O. Keohane and Michael Oppenheimer, "Paris: Beyond the Climate Dead End through Pledge and Review?" in *Politics and Governance* 4, no. 3, 142-151, (Cogitatio Press, 2016), p. 142-143.

[13] Keohane and Oppenheimer, "Paris: Beyond the Climate Dead End through Pledge and Review?," p. 145

[14] Keohane and Oppenheimer, "Paris: Beyond the Climate Dead End through Pledge and Review?," p. 145

his argument, domestic groups may put pressure on governments in order to force governments to pursue their interests. Also, governments may pursue several policies to answer the domestic pressures by minimising unfavourable international developments.[15] Furthermore, according to Putnam, international pressures can lead to changes in policies; however, without the domestic support, international forces are not sufficient. Thus, leaders act in their national interests.[16]

Indeed, according to the study of Hellmann and Wolf, the neo-liberal school highlights cooperation amongst states to maximize unity; however the school does not neglect the major powers. In contrast, the neo-realist reflection examines cooperation by considering the common interests of states and in turn power seeking self-help unities. It can be said clearly that self-help shapes the changing behaviour of developed and developing countries' policies on climate change. That aside, the neorealist school demonstrates that the states are incapable of cooperation because of the self-help structure of anarchy. However, this is refuted by neoliberals by claiming institutions' capacity to settle states together.[17] According to Keohane and Nye in *Power and Interdependence Revisited,* "Yet as long as we continue to regard preferences as exogenous, our theories will miss many of the forces that propel change in state strategies and, therefore in the patters of international interaction".[18] Indeed, countries' participation in international institutions are also related to their national strategies and their commitments under these institutions can reflect their priorities.

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[15] Robert D. Putham, "Diplomacy and Domestic Politics: The Logic of Two-Level Games" in *International Organization* 42, no. 3, 427-460, (Cambridge: The MIT Press, 1988), p. 434.

[16] Robert D. Putham, "Diplomacy and Domestic Politics: The Logic of Two-Level Games,"p. 430.

[17] Hellmann Gunther and Reinhard Wolf, "Neorealism, Neoliberal Institutionalism, and the Future of NATO," in *Security Studies* 3, no. 1, 3-43, (1993), p. 7.

[18] Robert O. Keohane and Joseph S. Nye, "Power and Interdependence Revisited," in *International Organizations* 41, no. 4, 725-753, (Cambridge: The MIT Press: 1987), p. 742.

Furthermore, the neo-liberal school is not neglecting power or national gain, but they also focus on broader factors such as the importance of international institutions while reading climate change. In fact, they consider the importance of power and national interest to form an environmental regime. According to Owen Greene's "Environmental Regimes. Effectiveness and Implementation Review" article, these regimes are formed by the arrangements of the involved actors' interests.[19] From this point, regimes can have the ability to influence shifts in obligations of states and in order to develop interests, states build international institutions to help them realise the benefits of cooperation. Also, Greene's stance on environmental issues highlights the interaction between power, science and actors by mentioning agreements as the key actors of cooperation among states.[20] Therefore, the evaluation of international climate change agreements, conventions, and mitigation declarations of Germany, China, US and Turkey will be explored in this study in order to demonstrate countries' national policies.

Also, Keohane and Nye contributed to the position for global climate change policy cooperation by demonstrating the comprehensive entity of agreements. From their point of view, "…contacts, coalitions and interactions across state boundaries that are not controlled by the central foreign policy organs of governments. It treats the reciprocal effects between transnational relations and interstate system as centrally important to the understanding of contemporary politics".[21] Therefore, policy consensus occurs when countries' national priorities are related to maximising their absolute gains. In addition, the school of neo-liberalism highlights the correspondence of states' self-interest with maximising their absolute gains.

[19] Owen Greene, "Environmental Regimes, Effectiveness and Implementation Review," in *The Environment and International Relations*, ed. John Vogler and Mark F. Imber, (New York: Taylor & Francis: 2005), p. 212.

[20] Greene, "Environmental Regimes, Effectiveness and Implementation Review," p. 212.

[21] Joseph S. Nye Jr and Robert O. Keohane, "Transnational Relations and World Politics: An Introduction," in *International Organization* 25, no.3, (Wisconsin: University of Wisconsin Press: 1971), p. 331.

Therefore, as Matthew Paterson explains in *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto*, even states are primary actors, they also unitary actors which they maximize their absolute gains.[22]

Briefly, from the perspective of realist assumption in relation to national initiatives, Joseph Grieco in "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism" criticizes neo-liberal institutionalism to overlook the characteristics of egoist self-help states. In reference to Grieco, "…neoliberal institutionalism misconstrues the realist analysis of international anarchy and therefore it misunderstands the realist analysis of the impact of anarchy on the preferences and actions of states. Indeed, the new liberal institutionalism fails to address a major constraint on the willingness of states to cooperate which is generated by international anarchy and which is identified by realism. As a result, the new theory's optimism about international cooperation is likely to be proven wrong".[23] Grieco's point is not entirely legitimate while criticising the optimism of international cooperation in order to figure out climate change policies.

Kenneth Waltz in *Theory of International Politics* explains the relations of units in an international system. From Waltz's point of view, "The states that are the units of international-political systems are not formally differentiated by the functions they perform. Anarchy entails relations of coordination among a system's units, and that implies their sameness. The second term is not needed in defining international-political structure, because so long as anarchy endures, states remain like units. International structures vary only through a change of organizing principle or, failing

[22] Matthew Paterson, "IR theory: Neorealism, neoinstitutionalism and the Climate Change Convention" in *The Environment and International Relations*, ed. John Vogler and Mark F. Imber, (London: Taylor & Francis: 2005), p. 68.

[23] Joseph M. Grieco, "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism" in *International Organization* 42, no. 3, 485-507, (Cambridge: The MIT Press, 1988), p. 487.

that, through variations in the capabilities of units".[24] In addition to Waltz's point, within the system in the absence of authority, units indispensably pursue power for their survival.

Also, the same argument is supported by Mizan R. Khan in "Climate Change, Adaptation and International Relations Theory" by stating that in environmental studies, it is difficult to define politics while only looking at one state. In contrast, both realism and neo-realism fail to explain political debates over climate change, because of the global common good where international organisations, treaties and negotiations were put into the heart of policies.[25]

From these arguments, climate change policies cannot be framed only under cooperative or obstructive policies and climate change policies of countries are parallel with their domestic interests in the environment, economy, energy and bilateral relations with other major players in global climate change regime.

In this framework, construction of global climate change institutions, conventions and agreements should be propelled forward and then, the policies of Germany, China, US and Turkey in this global climate regime will be explored in the following chapters, in order to reflect the motivations of the individual countries. It goes without saying that climate change affects humanity as a whole, through extreme weather, unpredictable natural disasters and economic activities. According to The Human Cost of Weather Related Disasters 1995-2015 Report, "Over the last twenty years, the overwhelming majority (90%) of disasters have been caused by floods, storms, heatwaves and other weather-related events. In total, 6,457 weather-related disasters were recorded worldwide by EM-DAT, the foremost international database

[24] Kenneth N. Waltz, *Theory of International Politics* (Boston: Addison-Wesley Publication, 1979), p. 93.

[25] Mizan R. Khan, "Climate Change, Adaptation and International Relations Theory," in *Environment, Climate Change and International Relations*, ed. Gustavo Nunez and Ed Atkins (Bristol: E-International Relations Publishing, 2016), p. 17.

of such events. Over this period, weather-related disasters claimed 606,000 lives, an average of some 30,000 per annum, with an additional 4.1 billion people injured, left homeless or in need of emergency assistance".[26] Thus, from these illustrations regarding the consequences of climate change, this topic occurs in the core debates of global environmental policies.

1.3. Argument

This thesis illustrates a comparative analysis between Germany, China, US and Turkey before and after the Paris Agreement. Even some scholars believe that climate change policies can be framed under cooperative policies, that policy options of countries can demonstrate their domestic priorities, as well as, their relations with other major players. Additionally, this study discusses the formation of global climate regime and then, the distinctive climate change policy developments of Germany, China, US and Turkey.

Also, climate change regime creation should be studied by looking at historical progress. In this process, as the neo-liberal school indicates, institutions, conventions and agreements urge countries to take part in the international climate regime because of their mutual benefits. It is highlighted by Nye and Keohane, interactions can lead to different definitions of interests between countries and multiple channels to negotiate[27]. In this regard, national growth strategies echo international climate change policies, and reciprocal relations with other major players.

This study seeks to illustrate reflection of domestic policies in climate change policy initiatives. It is expected to clarify that the priorities of countries are extending in

[26] "The Human Cost of Weather Related Disasters 1995-2015," UNISDR, p. 5, https://www.unisdr.org/2015/docs/climatechange/COP21_WeatherDisastersReport_2015_FINAL.pdf, (accessed on 14 April 2018)

[27] Robert O. Keohane and Joseph S. Nye, JR, *Power and Interdependence*, p. 20-21.

relation to their growth strategies and developing countries have fewer mitigation targets due to the realisation of national growth strategies and technology transfer.

This study demonstrates the neo-liberalist approach, while focusing on international cooperation behind climate change policies. The school considers states as primary and unitary actors while emphasising states under international regimes. In addition, this study explores the major factors behind how climate change policies reflect the domestic economy, environment and energy priorities of countries, and their reciprocal relations with other major players before and after the Paris Agreement.

In parallel with the "complex interdependence theory" as mentioned in the literature review, distinctive interests of countries' domestic policies can lead to contrasting preferences of international regimes and distribution of interest can initiate why there could not be a single institution.[28] Following the appropriate research, it can be deduced from the studies of Germany, China, US and Turkey, there are several obstacles and fluctuations in participation of the global climate regime for each country in relation to their prevailing interests. These fluctuations can lead to changes in global climate regime.

Following the Paris Agreement, a further climate change regime for contemporary politics evolved. Even with countries that are not entirely supportive of, or against the Paris Agreement, their participation varies in line with their domestic interests specifically regarding the environment, energy and economy. Additionally, what is expected to be discovered, is that climate change policies of countries are dependent variables related to growth strategies. The Paris Agreement triggered more favourable options to countries even after the withdrawal of the Trump Administration from the Agreement and because of this reason more countries have taken on board the mitigation responsibilities enacted in the Agreement.

[28] Keohane and Victor, "The regime complex for climate change," p. 12.

Moreover, climate change regimes are shaped by countries' external relations which are in turn shaped by their domestic policy concerns. Therefore, domestic priorities in the environment, energy and economy outweigh the rest as the most critical aspects in the formation of global climate change regime. Furthermore, the strategies of US and China fluctuate from those of Turkey and Germany when looking at their self-help strategies. However, countries such as Germany can benefit from climate cooperation by supporting climate change policies through enhancing their reputation as a leading country. Also, developing countries as in the case of Turkey, participate in climate change negotiations by decreasing future compensation deals in international policies. Because of these reasons, countries' motivations behind climate change vary in relation to their domestic policies.

1.4. Methodology

As illustrated by the literature reviewed above, climate change politics can be studied in neo-liberal lenses in international relations. Climate change is a unique topic that cannot be explained by domestic strategies alone, because climate affects mankind at different levels under the same umbrella. In this thesis, in order to demonstrate how climate change policies reflect the other priorities of countries and their relations, comparison methodology between climate change policies of Germany, China, US and Turkey will be provided.

In this research, the questions behind why and how climate change policies have diversified will be explained, in addition to containing perspectives of flexibility and observations with supporting statistical and graphical examples. Research, raw data of speeches, official-statements will be used and supported by secondary sources such as books, journals and reports, specifically, Biennial Reports, Intended Nationally Determined Contribution (INDC) submissions, European Union statistical reports, United Nations reports, World Bank Data Archive, statistical institutions databases will also be enlisted.

1.5. Organisation of the Thesis

This study provides an analysis compromising of seven main chapters. The first chapter illustrates scope and objectives, review of literature, main argument and the methodology of the study. Following the Introduction Chapter, the second chapter covers an analysis of the development of global climate change regime and gives further explanation on the formation of the global climate change institutional structure. This chapter contributes to the study by looking at how climate change regime before and after the Paris Agreement was shaped by common growth policies by considering the functions of international organisations, agreements and obligations under common mitigation targets.

The subsequent chapter holds the view that climate change policies reflect countries' domestic priorities in energy, the environment and economy and their external relations The policies of Germany, China, US and Turkey are explored separately in order to sustain a comparative analysis.

The third chapter briefly demonstrates the participation of Germany in climate change policies. Along this route, historical evaluation of Germany's climate change policies before and after the Paris Agreement is provided. This chapter analyses how climate change policies and the domestic priorities of Germany are endorsed. It has been evaluated that Germany convincingly supports international emission commitments in line with the policies of EU and that Berlin still maintains climate leadership in contrast to other countries mentioned in this study.

Following the third chapter, the fourth chapter describes the climate change policies of China. This chapter mentions how China's climate change policies are in line with its preservation of status in growth. During this process, several targets and enhancing reciprocal relations are illustrated. This chapter seeks to answer the question behind how China pursues its realisation of expansion of capacity in line with its climate change policies.

The fifth chapter focuses on the climate change policies of US. US position is analysed by its domestic growth strategies and bilateral relations. It has been demonstrated that US has several fluctuations throughout its climate change policies before and after the Paris Agreement. It is clear that the White House follows "business as usual diplomacy", and US abstains from any certain emission reduction targets which can affect their economy, energy and environment.

Accordingly, the penultimate chapter expresses the climate change policies of Turkey. This chapter analyses Turkey's participation in climate change policies before and after the Paris Agreement, and it seeks to answer why Turkey's climate change policies are limited. Also, as a developing country, the chapter analyses Turkey's domestic priorities in energy and the economy, in order to demonstrate how its policies are paralleled with its growth strategies. In conclusion, the studies illustrate that Turkey supports several mitigation targets in order to be part of the climate regime and the decreasing agreement costs for other interests with major players such as the EU.

Lastly, the concluding chapter demonstrates, a synthesis of comparison of findings from each countries' climate change policy target. From the findings, it is noted that even though some authors believe climate change policies can be classified into obstructive or supportive policies, countries' climate change policies vary in relation to their domestic priorities, capacities and bilateral relations.

CHAPTER 2

GLOBAL CLIMATE CHANGE DIPLOMACY

2.1. Introduction

In this chapter, after clarifying the definition of climate change, the evaluation of climate change regime will be presented in two main parts, which are the early stages of the agenda setting period of climate change policies and the processes before and after the Paris Agreement. It is expected to be shown that global climate change diplomacy had indented formation and the process directly reflected the countries' global participation in relation to their growth strategies. Countries participation of international climate change diplomacy can be seen in their commitments to climate agreements, institutions, mitigation timetables and pledges. From this perspective, the changing structure of climate regime initiated by the Paris Agreement will be analysed in order to discover global policies which can lighten the distinctive policies of countries. The Paris Agreement demonstrates obstructive and cooperative policies of countries as mitigation targets under the Agreement were shaped by the capacities of countries. Additionally, even the participation of countries that have neither fully engaged in nor completely rejected the Paris Agreement in mitigation strategies, can demonstrate how internal and external strategies reflect global policies.

2.2. Definition of Climate Change

Definition of climate change generally correlates with the difference between nature and anthropogenic activities. Climate change can be considered as the differentiation from average climate in the short course, compared to the changes in definitions, because of the comprehensive structure of the topic as detailed in this chapter.

The World Meteorological Organization (WMO) frames climate change as "…a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external factors such as persistent changes to the atmosphere or changes in land use".[29] Correspondingly, the WMO definition is deficient because it does not give justification on anthropogenic activities which trigger climate change.

The Intergovernmental Panel on Climate Change (IPCC) gives a broader framework on climate change. According to IPCC, "Climate change in IPCC usage refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity".[30] In line with this definition, a variety of definitions contain human activities as an initiative factor on climate change and simultaneously, many of them explain climate change as a direct impact on humanity[31]. United Nations Convention on Climate Change Article 1 defines climate change as the "…means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the

[29] "What is Climate Change?" World Meteorological Organization,

http://www.wmo.int/pages/prog/wcp/ccl/faqs.php#q1, (accessed on 17 September 2017)

[30] "Climate Change 2007: Synthesis Report," Intergovernmental Panel on Climate Change, report,

https://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html, (accessed on 17 September 2017)

[31] "…where climate change refers to a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods." "Fact sheet: Climate change science – the status of climate change science today," "United Nations Framework Convention on Climate Change." United Nations, 1992. https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

global atmosphere and which is in addition to natural climate variability observed over comparable time periods[32]".

Human activities have fostered greenhouse gases which have stemmed from the over-production of fossil fuels and the destruction of rain forests. "Artificial chemicals called halocarbons (CFCs, HFCs, PFCs) and other long-lived gases such as sulphur hexafluoride (SF6) are released by industrial processes. Ozone in the lower atmosphere is generated indirectly by automobile exhaust fumes and other sources".[33] In addition to this, the release of greenhouse gases affects the natural balance and ecosystem and paves the way for an increase in global temperature. Human activities that have caused climate change in turn affect society since climate change aggravates socio economic difficulties and natural disasters. In this thesis, while explaining climate change, anthropogenic activities will also be considered in the assessment of the term 'climate change'.

2.3. Early Evaluation of Climate Change

The results and effects of climate change have not been distributed equally among countries and observation of policies varies due to countries' capabilities in growth. It will be argued that while the concerns of developing countries are related to their capacity in growth strategies, developed countries' struggle with participation in climate change cooperation is related to limitations on their economic enlargement and their pursuit of compensation politics. In relation to this argument, David Victor mentions that developed countries have some inconsistency in their compensation policies regarding the topic of climate change, in terms of growth policies.[34]

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[32]"United Nations Framework Convention on Climate Change." United Nations, 1992. https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

[33] "Climate Change Information Kit," UNFCCC, http://unfccc.int/resource/iuckit/cckit2001en.pdf, (accessed on 10 May 2017)

[34] Victor, *Climate Change: Debating America's Policy Options*, p. 6.

2.3.1. Scientific Evaluation of Climate Change

Starting from the early stages, the primary causes of climate change were observed due to rapid increase in greenhouse gas emissions (GHG) after the Industrial Revolution, leading to the significantly higher release of carbon dioxide and methane.[35] The scientific knowledge on GHG effect started with Jean-Baptiste Joseph Fourier's calculation of sunlight, which was absorbed and radiated back to Earth. His study demonstrated that the earth's surface encompasses the planet to create conditions suitable for living and because of this, CO2 reveals snare-cover, captures heat and roots to a boost in temperature which is called GHG emission effect today.[36] Respectively, the increase in the level of GHG in the atmosphere leads to warming of lands and oceans. Briefly, the consequences of climate change are extremely unpredictable events in natural climate systems, through problems in melting glaciers, agricultural activities, biological diversity, sea level increases, deforestation and surface changes, products of temperature increase leading to socio-economic problems.[37]

However, it is observed that the climate change issue was not a major concern from the Industrial Revolution up to the Cold War period, because of limited scientific developments. After the Cold War, several scientific studies investigating the atmosphere in the Antarctic concluded that chlorofluorocarbons (CFC) were degrading the ozone layer because of Ultraviolet B (UVB) radiation.[38] Recently, a climate change thesis was manifested by the so called Molina-Rowland Hypothesis on depletion of the ozone layer. In 1974, it was explained by Molina-Rowland that

[35] Ümit Şahin, *Türkiyenin İklim Politikalarında Aktör Haritası* (İstanbul: İstanbul Politikalar Merkezi: 2014), p. 12.

[36] Anthony Giddens, *The Politics of Climate Change* (Cambridge: Polity Press, 2009), p. 17.

[37] "Climate Change Information Kit," p. 5-6.

[38] Simon Dalby, "Environment and International Politics: Linking Humanity and Nature," in *Environment, Climate Change and International Relations*, ed. Gustavo Nunez and Ed Atkins (Bristol: E-International Relations Publishing, 2016), p. 42.

chlorofluorocarbons (CFC) reduced the capacity of the ozone layer and therefore, several attempts to limit harmful gases were made by US and later the European Union (EU) in the framework of US National Academy, United Nations Environment Programme Council implementations.[39]

Since the late 19th century, following the Industrial Revolution, the global temperature has risen from 0.5 to 0.9 °C. Furthermore, the same data demonstrates that the Earth faced colder weather temperatures between the years of 1945 and 1970s as a result of volcanic activities and industrial production. It was calculated that the temperature of the Earth rose and 1990s recorded "the warmest decade" in history.[40] As Keeling Curve shows in Figure 1, since the 1750s, mainly after the Industrial Revolution which started in Britain and then spilled over into Europe and United States, GHG emissions have been on the rise. Climate Change Synthesis Report of 2014 evaluated that greenhouse gas emissions, with increased release of carbon dioxide, methane and nitrous oxide into the atmosphere, had constantly grown between 1970s and 2010. It is also demonstrated that 40% of the CO2 that was released between 1750 and 2011 still remains in the atmosphere, emitted by land or water sources, as mentioned in Figure 1.[41]

[39] Detlef F. Sprinz, "Comparing the Global Climate Regime with Other Global Environmental Accords," in *International Relations and Global Climate Change*, ed. Urs Lutherbacher and Detlef F. Sprinz (London: The MIT Press, 2001), p. 250.

[40] Victor, *Climate Change Debating Americas Policy Options*, p. 10.

[41] "Climate Change 2014: Synthesis Report," Intergovernmental Panel on Climate Change, Report, https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_All_Topics.pdf, (Geneva: 2015), p. 44, (accessed on 18 September 2017)

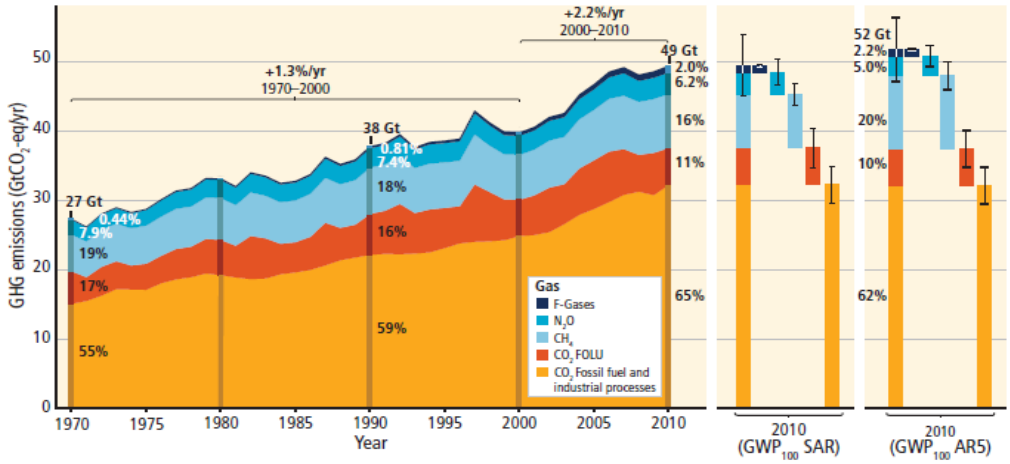

Figure 1: Total Annual Anthropogenic GHG Emissions by Gasses (GtCO2-eq/yr) 1970-2010

Source: "Climate Change 2014: Synthesis Report," Intergovernmental Panel on Climate Change, report, p. 5, https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_All_Topics.pdf, (accessed on 18 September 2017)

Moreover, even though there were several GHG emission indicators, it is deduced from this study that little progress has been achieved in international cooperation on climate change since 1980s and the period after 1980s hosted many of the environmental fundamental milestones including the foundation of institutions, agreement process, UNFCCC and basic principle agreements between the countries. Looking at the history of climate change, the impact of climate change was an undeniable factor for industrial countries in 1980s because of the seriousness of research results on carbon dioxide (CO2), methane, chlorofluorocarbons (CFCs) and other GHG gases and in accordance with the estimations, 1980s included six of the hottest years in climate change history during early evaluations.[42] Also, extreme weather conditions caused by climate change turned visible in the form of droughts, floods, and extreme temperature change compared with previous years.[43] The

[42] Matthew Paterson, "IR Theory: Neorealism, Neoinstitutionalism and the Climate Change Convention," in *The Environment and International Relations*, ed. John Vogler and Mark F. Imber (London: Taylor & Francis: 2005), p. 65.

[43] Paterson, "IR Theory: Neorealism, Neoinstitutionalism and the Climate Change Convention," p. 65.

Brundtland Report in 1987 was the first turning point in cooperative environmental policies which explained that impressive environmental policies cannot be reached when isolated from global policies. Also, the report was crucial for correlating environmental devastation with economic growth.[44] Thus, as the report mentioned, climate change led to a loss of 55 billion dollars and a 10% fall in GDP in the global economy.[45] Based on the report's findings it can be concluded that national policies and international institutions cannot isolate the environment from economic development given the central human factor behind significant environmental degradation.[46]

2.3.2. Early International Institutions within the framework of Climate Change

From these illustrations, regarding the scientific reality of climate change, the establishment of global institutions in line with climate change can be observed after 1970s. It is possible to claim that countries' policy priorities can be affected by their participation in international institutions. In this framework, United Nations Conference on the Human Environment, also known as Stockholm Conference of 1972 could be one such triggering point. The conference report acknowledges that the environment is a common concern affecting the lives of all in the global community. Most importantly, the report specifically urges for global cooperation in order to build a sustainable environmental regime while considering the differences among developed and developing nations.[47]

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[44] Shane Fudge, Yacob Mulugetta, Michael Peters and Tim Jackson in "The Political Economy of the UNFCCC: Negotiating Consensus within the Capitalist World System," in *Resolve Working Paper* 2, no. 11, p .12.

[45] "Report of the World Commission on Environment and Development: Our Common Future," World Commission on Environment and Development, report, p. 30, http://www.un-documents.net/our-common-future.pdf, (accessed on 15 May 2017)

46 "Report of the World Commission on Environment and Development: Our Common Future."

[47] "Report of the United Nations Conference on the Human Environment," United Nations, report, p. 3-4, http://www.un-documents.net/aconf48-14r1.pdf, (accessed on 5 July 2017)

As a product of the Conference, UNEP's formation paved the way for comprehensive political choices for countries by including more origins of pollution and creating an umbrella organisation to which countries can raise their legitimate concerns. At this point, UNEP provided a framework for sources of pollution and international treaties with respect to environmentally realistic damage, instead of limited policy options.[48]

Another important development was the establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988 because states attempted to limit their GHG emissions for the first time.[49] The First IPCC Scientific Assessment was released after the formation of the panel and this report concluded the debate over human contribution to climate change and acceptance of anthropogenic scepticism. Based on this argument, the climate scientific modelling which was raised by IPCC Assessment clarifies that,

> "Greenhouse gases in the atmosphere such as carbon dioxide and methane, are part of vast natural cycles. For some greenhouse gases, the current rates of release which are directly attributable to human activities are small percentages of large natural fluxes between the atmosphere the ocean and terrestrial ecosystems while for others are human activities result in dominant emissions."[50]

Thus, since climate change affects the whole of humanity, in the following section, the climate policies of international cooperation will be analysed in order to demonstrate the main motivations behind the Paris Agreement.

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[48] Peter M. Haas, "Obtaining International Environmental Protection Through Epistemic Consensus," in *Millennium: Journal of International Studies* 19, no. 3, 347-363, (1990), p. 348.

[49] "Climate Change: The IPCC Scientific Assessment," World Meteorological Organization, ed. J. T. Houghton, (Cambridge: Cambridge University Press, 1990), p. iii. http://www.ipcc.ch/ipccreports/far/wg_I/ipcc_far_wg_I_full_report.pdf

[50] "Climate Change: The IPCC Scientific Assessment," p. 318.

2.4. International Cooperation on Climate Change before the Paris Agreement

The period between the 1970s and 1980s can be framed as the agenda setting period for climate regime as mentioned above. Even though the climate change issue was first introduced by Svante Arrhenius in 1896 with the definition of greenhouse gas emissions, it was not a political concern for countries until 1990s.[51] Two periods in climate change history recorded rapid increase of temperature, from 1910 to the 1940s and mid-1970s up until today in opposition to other periods.[52]

2.4.1. Introducing North-South Debate to Climate Change Policies

With this information, the main exploration of this study will focus on questions after the 1990s when global political responses and negotiations were started between countries and their diverse responses. After the Cold War, political agendas and relations were reconsidered. In addition, previous military efforts were transformed into other "peace dividend" issues of which the environment became a part.[53] However, it is seen that developed and developing countries' climate change priorities varied due to several domestic targets and this argument can be supported by the decisions taken in 1992 London Conference. In the Conference, developing countries represented their interests and objections differently from that of developed countries because the climate change issue was not only an environmental issue but also a developmental issue. In addition, there was correspondent unity of policies

[51] Daniel Bodansky, "The History of Global Climate Change Regime," in *International Relations and Global Climate Change*, ed. Urs Lutherbacher and Detlef F. Sprinz, (London: The MIT Press, 2001), p. 24.

[52] Martin Griffiths and Terry O'Callaghan, *International Relations: The Key Concepts* (London: Routledge, 2002), p. 129-130.

[53] Joyeeta Gupta, "A History International Climate Change Policy," in *Wiley Interdisciplinary Reviews: Climate Change*, (2010), p. 639.

among developing countries because they were not on the same track with the developed countries in terms of technology transfer and financial support.[54]

Moreover, in addition to debates over London Conference, 1992 is a turning point in international environmental policies when United Nations Conference on Environment and Development (UNCED), was realised.[55] The foundation of UNCED is one of the decisive points in international climate change policies for introducing cooperation among states by outlining the new spirit of environmental change through certain deadlines on agreements and institutions that put actual pressure on governments.[56] From this point onwards, the conference led to the North and South debate, one of the core debates over climate change regime, according to which the South was not able to carry out the commitments in technology and economy.[57] As will be seen in the following chapters, this debate directly affected the initiatives and capabilities of developing and developed countries and the reason behind why some countries accepted fewer mitigation targets compared to others.

2.4.2. Global Policies under United Nations Framework Convention on Climate Change (UNFCCC)

Another crucial step of global diplomacy of climate change is the establishment of United Nations Framework Convention on Climate Change (UNFCCC) in 1992, which provided an umbrella for international policies of climate change and INDCs. According to Article 4 of UNFCCC, parties are obligated to update and submit their

[54] Bodansky, "The History of Global Climate Change Regime," p. 30.

[55] Gupta, "A History International Climate Change Policy," p. 639.

[56] Bodansky, "The History of Global Climate Change Regime," p. 32.

[57] Mathew Paterson and Michael Grubb, "The Politics of Climate Change After UNCED," in *Environmental Politics* 2, no. 4, (London: Routledge, 1993), p. 176.

national inventories and therefore, participate in cooperation for development.[58] From Keohane's point of view, "If there is agreement on regulatory arrangements, an international regime or regimes results. In thinking about the resulting regimes and regime complexes, it is helpful to imagine a continuum. At one extreme are fully integrated institutions that impose regulation through comprehensive, hierarchical rules".[59] For this reason, thanks to the unique construction of climate change policies, UNFCCC was a comprehensive step, since countries were obliged to follow basic rules and principles while sustaining their initiatives. Thus, it can be argued that institutions, organisations and agreements can establish the right environment for countries to cooperate and negotiate since they have capacity to bring countries together.[60]

Moreover, it is mentioned in the UNFCCC report, that developed countries should burden the responsibilities since they were the leading cause of anthropogenic climate change. In addition, UNFCCC Article 4 explains the different responsibilities of developed and developing countries and it also highlights the biggest share of developed countries for triggering the effects of climate change. According to Article 4;

> "Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases…"[61]

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[58] "United Nations Framework Convention on Climate Change." United Nations, 1992. https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

[59] Robert O. Keohane and David G. Victor, "The Regime Complex for Climate Change," prepared for The Harvard Project on International Climate Agreements, discussion paper 10, no 33, (2010), p. 3.

[60] Hellmann and Wolf, "Neorealism, Neoliberal Institutionalism, and the Future of NATO," p. 13.

[61] "United Nations Framework Convention on Climate Change," United Nations, (1992), p. 6, https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

Nevertheless, the countries' participation and commitment to UNFCCC is debatable. US, during the UNFCCC negotiations, was opposed to certain emission reduction agendas. For this reason, mostly because of the US opposition to timetables, the Convention concluded by ensuring that GHG emissions in 2000 would not exceed the rates found in 1990.[62] Overall, UNFCCC meeting was finalised by industrialised countries' aiming to limit their emissions of 2000 to not rise above the data provided in 1990.[63] In the following chapters, Germany, China, US and Turkey's participation in UNFCCC will be evaluated separately.

This study demonstrates that UNFCCC is a product of an interstate policy implementation process. In addition, Vogler states in accordance with UNFCCC process that "…there is no overarching political authority at the global level and the authority to regulate lies with around 200 sovereign states, the solutions to trans-boundary and global environmental problems have to be sought through interstate cooperation. This is particularly so regarding the 'global commons' – the oceans, Antarctica, outer space and the atmosphere".[64] Thus, UNFCCC grew due to domestic interests and relations over major players for countries in order to provide an international policy framework over climate change policies. To support this argument the neo-liberal school of thought argues that states design international cooperation in line with their national interests. These interests are shaped by major

[62] Ian Rowlands, "Classical Theories of International Relations," in *International Relations and Global Climate Change*, ed. Urs Lutherbacher and Detlef F. Sprinz, (London: The MIT Press, 2001), p. 46.

[62] Rowlands, "Classical Theories of International Relations," p. 46.

[63] Rowlands, "Classical Theories of International Relations," p. 46

[64] John Vogler, **"**The Environment and Natural Resources," in *Issues in World Politics*, ed. Brian White, Richard Little and Michael Smith (London: Macmillan Press, 1997), p. 234.

constituencies over which states may have bargaining power or no-agreement position.[65]

2.4.3. Conference of Parties (COP)

Connected to the above considerations, another key point is the introduction of the Conference of Parties (COP) as a result of UNFCCC process. COP accelerated a new system in climate change regime, which is the implantation of reporting and review conduct by supporting financial mechanisms. After the UNFCCC, the first Conference of Parties was executed in order to implement a reporting system and discuss unsolved points and financial instruments. During the COP negotiations, industrialised countries were obligated to submit their national reports and mitigation commitments.[66] COP1 established further liabilities for parties mentioned in the Berlin Mandate. The Mandate clearly states that the international response on climate change requires specific participation of industrialised countries on global cooperation. Additionally, in the Mandate, it is mentioned that developed countries are the biggest cause of GHG emissions per capita and the relative participation of developing countries to GHG emissions are limited in this process.[67] It also highlights the particular needs of developing countries by explaining their

[65] Keohane and Victor, "The Regime Complex for Climate Change," discussion paper prepared for The Harvard Project on international Climate Agreements, p. 3.

[66] Bodansky, "The History of Global Climate Change Regime," p. 34.

[67] This was clearly explained in Berlin Mandate, Decision 1. According to C section; "The legitimate needs of the developing countries for the achievement of sustained economic growth and the eradication of poverty, recognizing also that all Parties have a right to, and should, promote sustainable development;" And, in D section mentions that "The fact that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that the per capita emissions in FCCC/CP/1995/7/Add.1 English Page 5 developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs;", "Berlin Mandate," UNFCCC, (Berlin March 28 – April 7, 1995), p. 4-5, https://unfccc.int/resource/docs/cop1/07a01.pdf.

commitments to development in the form of enhancing technology, growing economy, eradicating poverty and other social costs.[68]

2.4.4. Kyoto Protocol

Furthermore, in contrast to UNFCCC and COP, Kyoto can be considered a failure in emission reduction targets and international climate change policies. When countries' domestic policies require great changes to their policy priorities in international commitments, it is unlikely to build common strategies. To illustrate this point from the lenses of Buermann, "The main political obstacle to the implementation of sustainability is that the traditional political priorities have not changed".[69] To support this argument, when the first the Kyoto Agreement was signed in 1997, the world wide emission levels were found to be 24.155.273,401 kt, and that level reached 35.848.592 kt in the targeted year 2013.[70]

Kyoto Protocol is proof that major changes in international policies behind climate change can be achieved only if they are parallel to domestic strategies. Gupta illustrates Kyoto as, "The Kyoto Protocol includes a menu of policies and measures from which all countries can make a selection of appropriate policies".[71] In a broader sense, Keohane and Victor argue that Kyoto did not provide any stable obligations for countries, as the greatest emitters, US and China, did not ratify the Agreement or

[68] "Berlin Mandate," p. 4.

[69] Christiane Beuermann and Bernhard Burdick, "The Sustainability Transition in Germany: Some Early Stage Experiences," in *Environmental Politics* 6, no. 1, (2007), p. 101.

[70] "Total Greenhouse Gas Emission of the World," The World Bank, http://data.worldbank.org/indicator/EN.ATM.GHGT.KT.CE, (accessed on 14 July 2017)

[71] Gupta, "A History International Climate Change Policy," p. 643.

agree to its commitments. Additionally, Kyoto is the result of consistent climate change regime failure.[72]

2.4.5. Copenhagen Accord

After Kyoto, the major breakthrough of Copenhagen Accord, was that it hosted major players, for example the President of US, Barack Obama's participation and support in the Accord, along with representatives from other emitter counterparts in developing countries, such as Wen Jiabao the Prime Minister of China, Luiz Inácio Lula da Silva the President of Brazil and the Prime Minister of India, Manmohan Singh.[73]

Copenhagen Accord contributed to the environmental regime by agenda creation through giving a certain time period for joint emission reduction to parties and targeting the year 2050.[74] This political implementation is explained by Bodansky through bottom up policies. According to him, Copenhagen process induced bottom up policies because the Accord led Annex-I countries to describe certain emission goals, principles, implementation of their targets, and the submission of reports in accordance with their implementation under the UNFCCC.[75]

Moreover, the Copenhagen Accord aimed to broaden the internationally binding mechanism for reducing GHG emissions which was not accepted in Kyoto. As an example, Copenhagen Accord required participation in a reporting and verification

[72] Keohane et al., "The Regime Complex for Climate Change," discussion paper prepared for The Harvard Project on international Climate Agreements, p. 3.

[73] Daniel Bodansky, "The Copenhagen Climate Change Conference: A Postmortem," in *American Journal of International Law* 104, no. 2, (2010), p. 234.

[74] Bodansky, "The Copenhagen Climate Change conference: A Postmortem," p. 236.

[75] Bodansky, "The Copenhagen Climate Change conference: A Postmortem," p. 234.

(MRV) system from the parties.[76] In line of this new process, it would be suitable for the international community to observe the changes, as well as the initiatives in the parties. This new system would also lead to the integration of major players under transparent measures and reports.[77] However, it should be noted that Copenhagen Accord was a voluntary agreement. Even though Copenhagen Accord provided specific obligations under intended mitigation targets for Annex-I and non-Annex I countries, it was a failure because of its unrealistic and voluntary emission targets.[78] After COP15, Copenhagen Accord was agreed to by 114 parties including Germany, United States and China in 2009. The specific emission pledges and targets for 2020 were mentioned in line with the accord.[79] Table 1 briefly provides an overview of pledges from the EU, United States and China. China, as a non-Annex-I country expressed its intended actions for the 2020 period.[80] In the following chapters, different emission pledges from United States, China and Germany which was in line with EU targets will be analysed as illustrated in Table 1.

[76] Peter Christoff, "Cold Climate in Copenhagen: China and the United States at COP15," in *Environmental Politics* 19, no. 4, (London: Routledge, 2010), 637-656, p. 638, DOI:10.1126/science.1153368.

[77] Bodansky, "The Copenhagen Climate Change Conference: A Postmortem," p. 236.

[78] Zhong Xiang Zhang, "Copenhagen and Beyond: Reflections on China's Stance and Responses," in *Climate Change Policies: Global Challenges and Future Prospects*, ed. Emilio Cerda and Xavier Labandeira, (Cheltenham: Edward Elgar Publishing, 2010), p. 239.

[79] "Information provided by Parties to the Convention relating to the Copenhagen Accord," UNFCC, https://unfccc.int/process/conferences/pastconferences/copenhagen-climate-change-conference-december-2009/statements-and-resources/information-provided-by-parties-to-the-convention-relating-to-the-copenhagen-accord, (accessed on 13 March 2018)

[80] Katarina Buhr, Susanna Roth, Peter Stigson and Anja Karlsson, "Comparisons of the Copenhagen Pledges: Analyses for Climate Change Professionals," report, (Sweden: IVL Swedish Environmental Research Institute, 2012), p 4-18, https://www.ivl.se/download/18.343dc99d14e8bb0f58b53ce/1443180609103/B2073.pdf, (accessed on 7 April 2018)

Table 1: Copenhagen Pledges of EU, United States and China

Party	Chosen Reference Year	% Emission reduction by 2020 with 1990 as reference year	% Emissions reduction by 2020 with 2005 as reference year
EU	1990	20-30%	-
United States	2005	-	17%
China	2005 (voluntary)	-	40-45%

Source: Katarina Buhr, Susanna Roth, Peter Stigson and Anja Karlsson, "Comparisons of the Copenhagen Pledges: Analyses for Climate Change Professionals," report, (Sweden: IVL Swedish Environmental Research Institute, 2012), p 4-5, https://www.ivl.se/download/18.343dc99d14e8bb0f58b53ce/1443180609103/B2073.pdf, (accessed on 7 April 2018)

2.5. International Cooperation on Climate Change after the Paris Agreement

From these early achievements, the Paris Climate Agreement is a turning point for environmental regimes because it brought obligations for both developing and developed countries for recent policies and the greatest exponents of emissions of climate change, mainly US, China and EU made an agreement in a cooperative manner and targeted future initiatives. Also, China has accepted to decrease its emissions by 2030.[81] The Paris Agreement demonstrates that international regimes can build harmony around the scientific knowledge of climate change and the

[81] Daniel Heffron, "What Do Realist Think About Climate Change," in *Centre For Geopolitics & Security in Realism Studies* (2015), p. 16.

commitment to respond to the problem of climate change. Thus, the Agreement to achieve temperatures below 2°C of pre-industrial levels was targeted.[82]

2.5.1. Obligations under Paris Agreement

The Paris agreement provided several outcomes such as demonstration of INDCs, pursuing policies in line with growth, finance, technology transfer and variable participation and ensuring a timetable for emission reductions.[83] To illustrate, according to Article 4 of the Paris Agreement, "Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions".[84]

As a consequence, INDCs can demonstrate how each country develops mechanisms to limit GHG emissions and the division of duties in climate change policies between developed and developing countries demonstrates the willingness and limitations of each party when it comes to emission reduction goals.[85] Therefore, the Agreement enhanced its policy to reach the upper levels by changing initiatives and leading more comprehensive burdens which can be acceptable to all parties. For instance, the Agreement provided a consensus on temperature rise below 2°C and countries were

[82] Yun Gao, "China's Response to Climate Change Issues After Paris Climate Change Conference," in *Advances in Climate Change Research* 7, no. 4, (2016), p. 235.

[83] Hong-Yuan Yu and Song-Li Zhu, "Toward Paris: China and Climate Change Negotiations," in *Advances in Climate Change Research* 6, no. 1, (2015), p. 58.

[84] "Paris Agreement," United Nations, (2015), p. 4. https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf, (accessed on 10 June 2017)

[85] Yu and Zhu, "Toward Paris: China and Climate Change Negotiations," p. 58.

able to participate to enable joint cooperation in relation to their responsibilities by demonstrating this in their INDCs.[86]

Additionally, the Paris Agreement has a unique position on environmental cooperation for providing national policies predicated on abilities and capabilities of states, in contrast to Kyoto and Copenhagen's extended initiatives. Article 1 of the Paris Agreement mentions that, "This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances".[87] Thus, after the Paris Agreement, countries discovered more compensation targets in relation to their capacities. Victor argues that in climate change politics, developed countries find obstacles by construction of consensus on mitigation responsibilities.[88] These responsibilities changed after the Paris Agreement and the greatest emitters' participation in the Agreement urged other countries to burden more responsibility. In connection to this point, the target mentioned in the agreement, a 55% reduction, required the participation of more countries.[89] Crucially, the Agreement was shaped by "common but differentiated policies" which were framed by different capabilities, in relation to extension of initiatives. Indeed, at the first step, the Paris Agreement was designated by marginalising cooperation policies for 2020 in regard to the promotion of national responsibilities, mitigation, adaptation, finance, technology transfer, transparency and to invite countries to take more initiatives.[90]

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[86] "COP21 Ardından," İstanbul Politikalar Merkezi, http://ipc.sabanciuniv.edu/new/cop21-ardindan/, (accessed on 7 June 2017)

[87] "Paris Agreement," United Nations, (2015), https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf, (accessed on 10 June 2017)

[88] David Victor, *Climate Change: Debating America's Policy Options*, p. 2.

[89] "Paris Anlaşması," Türkiye Cumhuriyeti Dışişleri Bakanlığı, http://www.mfa.gov.tr/paris-anlasmasi.tr.mfa, (accessed on 3 August 2017)

[90] "Paris Anlaşması."

From these illustrations, it is observed that the Paris Agreement plays an important role in the achievement of targets for 2020. The agreement demonstrated that 196 countries could compromise climate change policies with 187 of them representing their INDCs. Most importantly, the countries responsible for 96% of the emissions ratified the agreement.[91]

2.6. Conclusion

To conclude, in this chapter, global diplomacy on climate change has been demonstrated. As mentioned, the early stages of climate change can be considered as the agenda setting period, when countries had limited participation in climate change policies. After this period, the extension of policies in developed and developing countries can be seen objectively at different levels. After the Paris Agreement, parties agreed to a certain reporting system, next to emission reduction targets in relation to their capacities for mutual cooperation with further economic concerns. Holding the illustrations regarding the evaluation of global climate change diplomacy, the next chapters will examine the different domestic climate change policy dimensions starting with Germany and continuing with China, US and Turkey, in order to explore how their domestic policies can be extended to reflect their participation in climate change regime and partnership.

[91] Ethem Karakaya, "Paris İklimAnlaşması: İçeriği ve Türkiye Üzerine Bir Değerlendirme," in *Adnan Menderes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 3, no. 1, (2016), p. 2.

CHAPTER 3

GERMANY

3.1. Introduction

In this chapter, Germany's participation and relations with other major players on climate change policies before and after the Paris Agreement, including future targets and projections, will be evaluated. This chapter will examine how Germany's policies appear parallel with EU strategies and in this framework, Germany participated to EU climate change strategies by declaring its emission reduction targets for the post 2050 period. Even though many countries have not fully ratified the Paris Agreement, Germany's policies have been convincingly supportive before and after the Paris Agreement in line with global climate change obligations.

3.2. Structure of Germany on Climate Change

Before examining how and why Germany took several initiatives on global cooperation of climate change, Germany's general temperature structure should be summed up in order to demonstrate its needs and consequences. Germany's general climate change trends, by referring to National Meteorological Service (Deutscher Wetterdienst – DWD), air temperature rose annually by 1.2°C between 1881 and 2012.[92] Also, Germany's emissions are in a downward trend in reference to Appendix A. In accordance with Appendix A, CO2 emissions were estimated at 1,052,246.8 kt CO2 in the base year of 1990. Later, the CO2 level had declined to

[92] "Sixth National Communication of Germany," Federal Ministry of Environment, Nature Conservation and Nuclear Safety, report, (Berlin: BMU in-house Printing, 2013), p. 17, http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/6th_national_communication%5B1%5D.pdf, (accessed on 10 September 2017)

899,286.4 kt CO2 in 2000. Thus, Germany's carbon emissions were in a downward trend between 1990 and 2000. Additionally, the same data demonstrated the last inventory year CO2 emissions dropped back to 792,054.5 kt CO2 in 2015.[93] This data shows that Germany's emissions are steadily declining and the following headings will indicate the historical process of German climate policies behind this data.

Germany made great progress from 2008 to 2012 by achieving its 21% target, by controlling emissions of 192 million tons of CO2, according to 6th National Communication of Germany.[94] This positive trend has continued in today's Germany. As the 7th National Communication of Germany demonstrates, the total GHG emission is 28% lower than 1990 baseline year.[95]

3.3. Climate Change Policies of Germany before the Paris Agreement

From the information in line with Germany's structure, climate change policies are cooperative, however, Germany's participation in global diplomacy on climate change needs to be evaluated. Starting with the early progress that was made, climate change concerns in Germany were revealed in 1986 by the conference of "Energy Working Group (Arbeitskreis Energie)" on averting imminent catastrophe.[96] However, after unification, as explained by Beuermann et al. environmental policies were enhanced dramatically thanks to the unification of East and West Germany and

[93] "GHG Profiles – Annex I / Germany," UNFCCC, http://di.unfccc.int/ghg_profile_annex1, (accessed on 17 December 2017)

[94] "Sixth National Communication of Germany," p. 14

[95] "Germany's Seventh National Communication on Climate Change," Federal Ministry of Environment, Nature Conservation and Nuclear Safety, report (Berlin: 2017), p. 9, https://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/26795831_germany-nc7-1-171220_7_natcom_to_unfccc.pdf, (accessed on 1 Jan 2018)

[96] Reiner Grundmann, "Climate Change and Knowledge Politics," in *Environmental Politics* 16, no. 3, (London: Routledge 2007), 414-432, p. 425.

the authors highlight that due to the reintegration of Federal Government (Länder) with the German Democratic Republic, the position of Germany within EU has grown.[97]

3.3.1. Germany's Early Climate Change Policies

By referring Greene, cooperation can be achieved through international organisation. In other words, governments establish transnational channels through support of international institutions and they gain benefits from cooperation by sharing knowledge.[98] In relation to this argument, it is possible to argue that Germany's policies are in line with EU targets. According to Golub, EU's strategies in line with climate change, enhance the capacity of the agreed parties in terms of competition and negotiations.[99] In order to demonstrate this point, Germany enacted Fifth EC Environmental Action Programme of EU and complemented policies with European Union during the early period. The report concluded the first goal of the policy was the integration between parties in EU. Also, the program identified the differences among parties in order to achieve long term targets by 2000 and community action to prevent corruption in the international market.[100]

Furthermore, while explaining the main motivations behind climate change policies of Germany before Paris, it is possible to claim that energy issues have been at the

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[97] Christiane Beuermann and Jill Jager, "Climate Change Politics in Germany: How Long Will Any Double Dividend Last?" in *Politics of Climate Change*, ed. Tim O'Riordan and Jill Jager (London: Routlege, 1996), p. 187.

[98] Owen Greene, "Environmental Regimes: Effectiveness and Implementation Review," in *The Environment and International Relations*, ed. John Vogler and Mark F. Imber. (New York: Routledge, 2005), p. 212.

[99] Jonathan Golub, "Global Competition and EU Environmental Policy: Introduction and Overview," in *Global Competition and EU Environmental Policy*, ed. Jonathan Golub (New York: Routledge, 1998), p. 5.

[100] European Commission, "Towards Sustainability," in *Official Journal of the European Commission* 17, no. 5, (1993), p. 24-25, http://ec.europa.eu/environment/archives/action-programme/env-act5/pdf/5eap.pdf, (accessed on 10 October 2017)

heart of Germany's climate change policies from the beginning. Germany established crucial steps by recovering its energy targets through "ecological tax reform (ETR)" in 1999.[101] The aim of the reform was to settle internationally projected energy intensive targets by efficient usage of electricity, gas and oil between 1999-2003.[102] Climate Change Self-commitment was signed between the German government and the German Industry Federation (BDI) in 1995, in order to maintain and reduce CO2 emissions by 2005 in 14 energy intensive sector associations and 4 energy sector associations by 20% until 2005. This agreement was further supported and another self-commitment agreement was signed in 2000 to reduce CO2 emissions by 28% to set a carbon agenda by 2010.[103] Additionally, this commitment was developed further by 2003 with the development of ETR with 40% commitment in manufacturing which is taxed at a higher level.[104] The ETR mainly targeted the tax burden on economic goods and lowered the income taxes of workers.[105]

In relation to the above statement, Benoît Bosquet explains ETR as a double dividend problem. According to him, "…an environmental improvement coupled with an economic benefit: revenues of environmental taxes could be used to cut distorting taxes on capital and labor and thus reduce the excess burden of the tax

[101] Ian Bailey, "Market Environmentalism, New Environmental Policy Instruments, and Climate Policy in the United Kingdom and Germany," in *Annals of the Association of American Geographers* 97, no. 3, (2007), p. 538.

[102] Bailey, "Market Environmentalism, New Environmental Policy Instruments, and Climate Policy in the United Kingdom and Germany," p. 538.

[103] Bailey, "Market Environmentalism, New Environmental Policy Instruments, and Climate Policy in the United Kingdom and Germany," p. 537.

[104] Ian Bailey, "Market Environmentalism, New Environmental Policy Instruments, and Climate Policy in the United Kingdom and Germany," p. 538.

[105] "Environmental Tax Reform: Increasing Individual Incomes and Boosting Innovation," European Environment Agency, (Jan 9, 2012), https://www.eea.europa.eu/highlights/environmental-tax-reform-increasing-individual, (accessed on 10 September 2017)

system, with positive consequences for employment and investment."[106] However, the strategy of shifting taxes from labor costs to environmentally harmful activities, also led to economic growth in the country. The ETR's main target was to reform shifting tax burdens, such as shifting labour taxes to economic goods, or environmental activities which negatively impacts a healthy life.[107] As data indicates, the cost of emitting one ton of CO2 is 68 Euros per person which leads to the expectation of increasing the number of jobs to 152.000 in the employment sector of Germany by 2020.[108] The net result of this model is to lower the costs of labour. Therefore, this model illustrates a positive attitude of Germany in environmental policies, because the strategy created additional economic income for German people. From this point onwards, Germany's climate change policies in ETR provided additional sources and taxes before Germany's participation in UNFCCC.

3.3.2. Germany's Participation to UNFCCC

After the experiences of the early stages of the process, Germany's position was clear and it can be seen with its participation in UNFCCC. The Action Plan of Germany further supported external climate change policies in relation to domestic strategies by increasing the capacity and decreasing the vulnerability for climate change, through the principle of international cooperation in line with UNFCCC. Thus, the Action Plan, "Presents the contribution that Germany is making to the organization and implementation of the Adaptation Framework adopted in Cancún under the UN Framework Convention on Climate Change, through the International Climate Initiative, and in development and research cooperation, as well as the Federal Government's other international activities concerned with adaptation to

[106] Benoit Bosquet, "Environmental Tax Reform: Does It Work? A Survey of the Empirical Evidence," in *Ecological Economics* 34, no.1, (2000), p. 20.

[107] "Environmental Tax Reform: Increasing Individual Incomes and Boosting Innovation."

[108] "Environmental Tax Reform: Increasing Individual Incomes and Boosting Innovation."

climate change".[109] Furthermore, The Action Plan supported international responsibilities by providing knowledge, expanding knowledge, sustaining communication and developing concepts. Also, the Action Plan presents the actions and responsibilities of the German Federal Government's targets. These policies include domestic policies for implementing measures on human health, biodiversity, water regime and agriculture.[110] As the report indicates, Germany supported policies in line with its domestic targets.

In addition to the above information, the Plan demonstrated that climate change policies are in parallel with domestic commitments and international commitments. Specifically, in order to demonstrate this point, the Plan illustrates major steps to build consistent climate change policies in two big areas which are sustaining an inter-linkage between sectors and regional activities. In order to achieve sustainable linkages between sectors and regional activities, the EU's commitments to UNFCCC were also illustrated as key strategy in cooperation policies of Germany. Within the framework of European Community's obligations on reducing its greenhouse gas by 8% from 2008 to 2012, while sharing the responsibility among EU member states, Germany also took one of the leading roles with 26% GHG emissions. With participation of Germany's emission reduction, the EU target in Kyoto to reduce emissions was fulfilled by 25.6% emissions in 2011 from the baseline year.[111]

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[109] "Adaptation Action Plan of the German Strategy for Adaptation to Climate Change," Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 15, https://www.bmu.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/aktionsplan_anpassung_klimawandel_en_bf.pdf, (accessed on 13 September 2017)

[110] "Adaptation Action Plan of the German Strategy for Adaptation to Climate Change," Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, p. 1-23, https://www.bmu.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/aktionsplan_anpassung_klimawandel_en_bf.pdf, (accessed on 13 September 2017)

[111] "Sixth National Communication of Germany," p. 22.

3.3.3. Germany and Kyoto Process

Furthermore, from 2008 to 2011 before the Paris Agreement, Germany's significant contribution to the Kyoto process is crucial in demonstrating its domestic policies, because it was the largest emitter in EU with 9.4 metric tons per capita.[112] EU was committed to decrease its GHG emissions by 8% as a target of the Kyoto Protocol. On the other hand, Berlin broadened its responsibilities in international cooperation by a 21% reduction in its emissions compared to 1990 levels and the estimations demonstrated that Germany participated actively in international responsibilities, by exceeding its 21% target to 23.6% emission reduction between the years of 2008 and 2012.[113] Therefore, it is possible to claim that Germany made a positive contribution to international climate regime by paralleling its environmental policies in accordance with the process of Kyoto.

3.3.4. Mid Period of Germany's Climate Change Policies

On the other hand, Germany's domestic policies varied in the mid- 2000s and ETR was reviewed and negotiated in domestic policies. Accordingly, the CDU Minister of the Environment proved his willingness by cutting 25% of the CO2 emissions in 2005.[114] The Federal Ministry of Economics and Technology (BMWi) objected to this statement because of its harmful effects on Germany's capacity in global competitiveness in terms of industry and energy, however, the Ministry for the

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[112] "CO2 emissions (metric tons per capita) of Germany," The World Bank, http://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=DE&view=map, (accessed on 13 September 2017)

[113] "Kyoto Protocol – First Commitment Period 2008 to 2012," Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, http://www.bmub.bund.de/en/topics/climate-energy/climate/international-climate-policy/kyoto-protocol/commitment-periods/#c49211, (accessed on 10 August 2017)

[114] Michael T Hatch, "The Politics of Climate Change in Germany: Domestic Sources of Environmental Foreign Policy," in *Europe and Global Climate Change Politics, Foreign Policy and Regional Cooperation*, ed. Paul G. Harris (Cheltenham: Edward Edgar Publishing, 2007), p. 46.

Environment restated its decision for the 25% emission reduction between 1987 and 2005 at the end of the discussions.[115]

Later, in a broader sense of energy policies of Germany, EU Emission Trading Scheme (EU ETS) was one of the improvements before the Paris Agreement for Germany. Under the implementation of Kyoto, EU ETS suggested member states investigate more options for the periods from 2005 to 2007 and from 2008 to 2012.[116] The ETS system was enacted in 2003 in order to enable the trade of CO2 emissions to fulfil a 3.3% decrease in targets of Kyoto.[117] The EU ETS system mainly focused on cap and trade, in other words, allowed partners to buy and sell their GHG emissions if a company owned more GHG than it could emit. And during this period, major GHG emissions stemmed from energy consumption with a share of 90% in Europe, and Germany took advantage of the EU ETS system as the system opened up the emission trade to third parties when the 2008 crisis hit.[118]

Apart from the above, "German Strategy for Adaptation to Climate Change (DAS)" was enacted as a strategy under Germany's participation to UNFCCC by the Federal Government in 2008, to highlight the effects of climate change on Germany and in turn classify the possible precautions, risks and potential targets to reduce its impact.[119] According to the DAS strategy, "The aim of the Adaptation Strategy is to

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[115] Hatch, "The Politics of Climate Change in Germany: Domestic Sources of Environmental Foreign Policy," p. 46.

[116] Bailey, "Market Environmentalism, New Environmental Policy Instruments, and Climate Policy in the United Kingdom and Germany," p. 539.

[117] Beatriz de las Heras, "EU-China Cooperation on Greenhouse Gas (GHG) Mitigation Towards a Potential International Emission Trading Scheme," in *China-EU Green Cooperation*, ed. Etienne Reuter and Jing Men (Singapore: World Scientific Publishing, 2015), p. 5.

[118] "The German Government's Climate Action Programme 2020," Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, (Berlin: 2014), p. 29. https://www.bmu.de/fileadmin/Daten_BMU/Pools/Broschueren/aktionsprogramm_klimaschutz_2020_broschuere_en_bf.pdf, (accessed on 20 December 2017)

[119] "German Strategy for Adaptation to Climate Change," p. 4,

reduce vulnerability to the consequences of climate change, to maintain or improve the adaptability of natural, social and economic systems, and to take advantage of any opportunities. To facilitate a precautionary approach to sustainable planning and action in the private, scientific, business and public sectors..."[120] In addition, the strategy aimed to support a safe environment by considering Germany's domestic policies. Thus, DAS was established under UNFCCC process, through common but differentiated responsibilities, aiming to limit climate temperature rise by 2°C from pre-industrial levels.[121]

Also, climate change strategies under DAS reflects international and bilateral relations specifically. For instance, the strategy convincingly mentions the future climate regime which consists of globally agreed reductions to prevent harmful effects on the environment. Besides, it was mentioned that Federal Government's responsibility was to develop capacities of other developing counterparts, thus, there could be bilateral implementation on global climate change policies.[122] The strategy was designed according to a DAS report, "…designed to ensure that German development cooperation makes a contribution to climate protection and to improving the resistance of developing countries to the effects of climate change. One particularly important aspect in this context is to strengthen the capacity of our developing country partners, so that they can largely take over for themselves the task of adapting to climate change, planning and implementing the measures".[123]

Moreover, "Adaptation Action Plan of the Strategy for Adaptation to Climate Change" in August 2011, was enacted for specific actions on climate change after

[120] "German Strategy for Adaptation to Climate Change," p. 4.

[121] "German Strategy for Adaptation to Climate Change," p. 5.

[122] "German Strategy for Adaptation to Climate Change," p. 64.

[123] "German Strategy for Adaptation to Climate Change," p. 64.

DAS within the framework of Germany's obligations under UNFCCC.[124] The strategy paper highlights international emission reduction commitments of Germany, and it designs national policies among ministries related to climate change, as well as units of EU in order to achieve international goals with the cooperation of Federal Government and other actors[125] resulting in strategic contributions to DAS. As previously mentioned DAS strategy mentions "…mitigating the vulnerability of natural, social and economic systems to climate change impacts, at the same time increasing the adaptability of these systems and enhancing the exploitation of possible opportunities".[126] Indeed, the strategy contributes to the emission reduction goals at federal level.

Furthermore, climate change policies of Germany directly reflects the country's energy policy options. From this perspective, Angela Merkel, made a transition of energy in order to fulfil a 40% emission reduction target by 2020.[127] After the disasters in Fukushima in 2011, these targets were repassed and nuclear energy omitted from the target. The concept rephrased a 35% emission reduction target by 2020 and an 80% emission reduction target by 2050.[128] Accordingly, these policies were centred and developed by Energiwende policy of Germany. Briefly, Energiewende is a concept of Merkel's shifting of energy supply to renewables and to achieve these goals of 35% and 80% emission reductions through several

[124] "Adaptation Action Plan of the Germany Strategy for Adaptation to Climate Change," Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, report (Berlin: 2011), p. 15, http://www.bmu.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/aktionsplan_anpassung_klimawandel_en_bf.pdf, (accessed on 13 September 2017)

[125] "Adaptation Action Plan of the Germany Strategy for Adaptation to Climate Change," p. 4.

[126] "Adaptation Action Plan of the Germany Strategy for Adaptation to Climate Change," p. 8.

[127] Robyn Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," in *Environmental Politics* 25, no. 1, (2016), p. 6.

[128] Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," p. 6.

instruments, including energy efficiency measurements, ecological taxes, emission trading and voluntary agreements.[129]

Additionally, Energiewende was produced as an alternative policy target so that Germany could have major changes in the political infrastructure with respect to energy prices, environmental costs and new green jobs.[130] Also, thanks to Energiwende, Germany may emerge as a pioneer or responsible leader in climate change discourse. This role modelling also led to international recognition of Energiwende policies.[131]

However, as policy target, Energiewende became not only a concern for Germany's policy initiatives, but also for EU's climate motivations due to its enlarged responsibility in energy and the debate over Energiewende was presented to the UN Security Council by Germany, regarding its economic costs.[132] However, it is noted by Federal Foreign Office that shifting in energy system takes time and the dialog between EU partners and Germany needs cross border cooperation. Additionally, the Foreign Office mention that this transformation of energy can increase the environmental responsibility of Germany with opportunities in innovation, economic growth and makes Germany less dependent on oil.[133] These are the main driver mid

[129] Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," p. 6.

[130] Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," p. 8-9.

[131] Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," p. 7-8.

[132] Robyn Eckersley, "National Identities, International Roles, and the Legitimation of Climate Leadership: Germany and Norway Compared," in *Environmental Politics* 25, no. 1, (2016), p. 16.

[133] "The German Energiewende", Federal Foreign Office, http://www.energiewende-global.com/en/ (accessed on 17 July 2018)

policies before the Paris Agreement. The following section will illustrate the COP process which is the map for the Paris Agreement.

3.3.5. COP before the Paris Agreement and Germany

Before the Paris negotiations in COP21, in accordance with the negotiations in COP16 in Cancun, the statement of Germany mentioned the long term targets and transformation of economy as climate change policy targets. Accordingly, in this transformation, Germany targeted 40% decrease in GHG emissions by 2020 through multilateral policies and initiated a 1.26 billion Euro financial support package for developing countries.[134]

The strategies in Cancun were followed by COP17 in Durban in 2011, and Germany's climate change policies highlighted three major points. Firstly, the international mitigation targets in Kyoto and participation of major emitters in order to sustain a fair share. Secondly, Germany's support to developing countries in terms of financing around 1.25 billion Euros and providing an additional 40 million Euros to a Green Climate Fund. Finally, changing the energy structure of Germany to enable Germany to reduce GHG emission by 40% by 2020.[135]

Later, Germany, during the negotiations of COP20 in Lima, highlighted their support to the Paris protocol and long-term strategies by emission reduction to achieve 40%

[134] "Plenary statement of H.E. Mr. Norbert Röttgen, German Minister of the Environment, Nature Conservation und Nuclear Safety, UN Climate Change Conference COP16," UNFCCC, speech (2010), p 1, https://unfccc.int/files/meetings/cop_16/statements/application/pdf/101208_cop16_hls_germany.pdf, (accessed on 4 June 2018)

[135] "Statement of the German Federal Minister of the Environment, Nature Conservation and Nuclear Safety Norbert Röttgen at the High Level Segment of the UNFCCC 20111 COP17 and CMP 7," UNFCCC, https://unfccc.int/files/meetings/durban_nov_2011/statements/application/pdf/111207_cop17_hls_germany.pdf, (accessed on 4 June 2018)

of GHG emissions by 2020.[136] This target was in line with INDCs of EU member states, which was respectively the reduction of 40% emissions by 2030.[137] These are policies that Germany followed on the Paris road. The next section will analyse Germany's policies after the Paris Agreement.

3.4. Climate Change Policies of Germany after the Paris Agreement

After the Paris Agreement, EU and its member states, as a mandatory requirement of INDC, were obligated to reduce their GHG emissions by at least 40%.[138]It took Germany several policy amendments to reduce its GHG emissions. Accordingly, 2050 Climate Action Plan aimed to achieve targeted emission reduction levels. In light of the Paris Agreement, 2050 Climate Action Plan indicated that Germany had future plans to change its pathway on environmental policies. The target numbers in this plan was identified from 80% to 95% emission reduction from the 1990 baseline year to 2050.[139] Also, Germany took huge responsibilities with 2050 Climate Action Plan, in which Germany has extended its initiatives with long term targets in variable scopes, mainly in energy, transportation, trade, market and agriculture.[140]

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[136] "National Statement Germany at the COP20," Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, https://www.bmu.de/en/speech/national-statement-germany-at-the-cop20/, (accessed on 2 April 2018)

[137] "Submission by Latvia and the European Commission on Behalf of the European Union and Its Member States," Latvian Presidency of the Council of the European Union, (2015), http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Latvia/1/LV-03-06-EU%20INDC.pdf, (accessed on 17 June 2017)

[138] "Submission by Latvia and the European Commission on Behalf of the European Union and Its Member States."

[139] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy (executive Summary)," Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, (2016), p. 1, http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimaschutzplan_2050_kurzf_en_bf.pdf, (accessed on 7 July 2017)

[140]"Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy (Executive Summary)," Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, (2016), p. 1,

As seen above, Germany took further steps in its climate change policies and this position continued after Trump's withdrawal from the Paris Agreement. Unlike developing countries, it is possible to illustrate that Germany developed its reciprocal relations under climate change policies and the climate change policies of Germany reflects its relations with other major players. Indeed, Europe and Germany participated in emission reduction obligations even after the withdrawal of US from the Paris Agreement. According to the joint statement of Angela Merkel, French President Emmanuel Macron and Italian Prime Minister Paolo Gentiloni, "We deem the momentum generated in Paris in December 2015 irreversible, and we firmly believe that the Paris agreement cannot be renegotiated since it is a vital instrument for our planet, societies and economies".[141]

Also, even after the Trump Administration's withdrawal from the Agreement, climate change policies of Germany reflect that Chinese reciprocal cooperation with EU, with regard to international actions on climate change, has been positively enhanced due to joint statements. Actually, the relations between China and the EU were strengthened in 2005, with a project known as China-EU Near Zero Emission Coal (NZEC), whose goal was to raise a "carbon capture and storage technology" for China in order to enhance initiatives by 2020.[142]

In addition, China and EU together took on more joint responsibilities after Trump's decision. This is clearly understandable by China and EU's joint statement during the 12th EU-China Business Summit. During a speech by President Jean-Claude

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http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimaschutzplan_2050_kurzf_en_bf.pdf, (accessed on 7 July 2017) .

[141] Sara Stefani, "France, Germany and Italy: Paris Deal 'cannot be renegotiated," *Politico*, (6 January 2017, http://www.politico.eu/article/france-germany-and-italy-paris-deal-cannot-be-renegotiated/, (accessed on 7 April 2017)

[142]"Climate Action: China," European Commission, https://ec.europa.eu/clima/policies/international/cooperation/china_en, (accessed on 25 February 2017)

Juncker, he mentioned the cooperation with China in international solutions.[143] Also, he mentioned the "the full implementation without nuances" of the Paris Climate Agreement by referring to EU and China's joint leadership to build a global low carbon economy.[144]

3.5. Mitigation Targets of Germany

Moreover, according to EU's 2020 Target Agenda, it is expected to emit 14% of GHG of 1990 levels.[145] However, Germany's energy efficiency target demonstrates that the country should embrace its responsibilities, because its renewable energy consumption for 2020 shares one of the highest levels compared with other EU countries at 18%.[146] Similarly, its energy efficiency has the highest level standing at 276.6%, while the EU's target is just 20%.[147]

Also, within the framework of EU, as mentioned in German Climate Action Plan 2050, EU targeted between 80% and 95% GHG emission reduction from 1990 to 2050 and Germany acknowledged the commitment.[148] Following this target, European Council decision on reduction of 40% of GHG emission in comparison

[143] "Speech by President Jean-Claude Juncker at the 12th EU-China Business Summit," European Commission, (June, 2017), http://europa.eu/rapid/press-release_SPEECH-17-1526_en.htm, (accessed on 20 July 2017)

[144] "Speech by President Jean-Claude Juncker at the 12th EU-China Business Summit," European Commission, (June, 2017), http://europa.eu/rapid/press-release_SPEECH-17-1526_en.htm, (accessed on 20 July 2017)

[145] "Europa 2020 Strategy," *Eurostat*, p. 1, http://ec.europa.eu/eurostat/web/europe-2020-indicators, (accessed on 2 September 2017)

[146] "Europa 2020 Strategy," p. 1.

[147] "Europa 2020 Strategy," p. 1.

[148] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy," p. 16-19.

with 1990, was followed by the Paris Agreement.[149] In relation to EU mitigation targets, renewable energy efficiency which was 27% was upgraded by Germany with a realignment of 30% until the year of 2030.[150] The mitigation targets of Germany on energy efficiency demonstrate that Germany has huge initiatives while tackling climate change. In fact, the GHG emission rate reduced by 908 million tons of CO2 from the baseline year 1990 to 2015.[151] In this regard, Germany's CO2 emissions, presented in Table 2 demonstrate CO2 emissions in millions of tones.

Table 2: Emissions from Areas of Action Set Out in Definition of the Target

Area of action	1990 *(in million tonnes of CO_2 equivalent)*	2014 *(in million tonnes of CO_2 equivalent)*	2030 *(in million tonnes of CO_2 equivalent)*	2030 (reduction in % compared to 1990)
Energy sector	466	358	175 – 183	62 – 61 %
Buildings	209	119	70 – 72	67 – 66 %
Transport	163	160	95 – 98	42 – 40 %
Industry	283	181	140 – 143	51 – 49 %
Agriculture	88	72	58 – 61	34 – 31 %
Subtotal	1209	890	538 – 557	56 – 54 %
Other	39	12	5	87%
Total	**1248**	**902**	**543 – 562**	**56 – 55 %**

Selected strategic measures

Source: "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy," UNFCCC, p. 10, https://unfccc.int/files/focus/application/pdf/161208_ksp_2050_english_for_unfccc_reduced.pdf, (accessed on 20 December 2017)

[149] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy," p. 16.

[150] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy," p. 19.

[151] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy," p. 16-19.

In light of this information, German Climate Action Plan 2050 notably highlights the efforts of Germany "As a leading industrialised nation and the EU member state with the strongest economy, we have already geared our Climate Action Plan to the guiding principle of extensive greenhouse gas neutrality by the middle of the century. Germany's per capita greenhouse gas emissions are higher than the EU average, and considerably higher than the global average."[152] Also, one of the major initiatives of 2050 mitigation target, is that as the 2030 target focuses on total reduction of GHG emissions and approximately 1,248 million tons of CO2 emissions.[153]

Another consideration, is that the Germany Federal Government Energy Concept Strategy aimed to reduce the country's greenhouse gas emissions of 1990 levels in terms of 40% by 2020, 55% by 2030, 70% by 2040 and 95% by 2050.[154] This concept was built in relation to the government's climate change programs with the goals of 2020. In relation to this, the German Government's Climate Action Programme 2020 was settled after the Paris agreement as a major policy target.[155] From these calculations, as the programme mentioned, a 40% decrease in GHG emissions by 2020; Germany has a big responsibility to meet the needs for future mitigation targets.

3.6. Germany and Future Climate Change Policy Projections

From these mitigation targets, the studies indicate that Germany is a global negotiator and prioritises the economy in relation to climate change policies. On the other hand, future scenarios figure that Germany will be vulnerable to temperature

[152]"Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy (Executive Summary)," p. 2.

[153] "Climate Action Plan 2050: Principles and Goals of the German Government's Climate Policy (executive Summary)," p. 3.

[154] "Sixth National Communication of Germany," p. 14.

[155] "Europa 2020 Strategy," p. 1.

rise, as the scenarios have calculated a 1.6 to 3.8 ºC increase in temperature of the country.[156] Significantly, German Climate Change Atlas (Deutscher Wetterdienst) with an overview for the future trends between 1961 and 1990 reference calculations, the approximate change in climate will be 3% in the future.[157] The main trends for Germany's GHG emissions are illustrated in Table 3.

[156] "Climate Change in Germany," Environmental Research Plan of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, ed. Marc Zebisch, Torsten Grothmann and others, https://www.pik-potsdam.de/members/vtecken/lehre-uni-potsdam/projektseminar-ws-06-07-analyse-institutioneller-anpassungsstrategien/climate-change-in-germany.pdf, (accessed on 25 July 2017)

[157] "German Climate Atlas," DWD, http://www.dwd.de/EN/climate_environment/climateatlas/climateatlas_node.html, (accessed on 3 September 2017)

Table 3: Trends in Greenhouse Gas Emissions in Germany by Sector and Projections up to 2020

Sector	Emissions 2012 in million tonnes of CO_2 equivalent	Change between 1990 and 2012 in percent	"With measures" projection up to 2020 in million tonnes of CO_2 equivalent	"With measures" projection up to 2020 – reduction as a percentage with compared 1990
Energy industry	377	-17.7	306	-33
Industry	185	-33.0	183	-34
Households	94	-28.2	80	-39
Transport	151	-5.6	151	-6
Commerce/trade/ services	42	-48.1	35	-57
Agriculture	76	-23.2	72	-27
Other	15	-67.4	10	-77
Total	940	-24.7	837	-33

Source: "The German Government's Climate Action Programme 2020," Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, p. 16, http://www.bmu.de/fileadmin/Daten_BMU/Pools/Broschueren/aktionsprogramm_klimaschutz_2020_broschuere_en_bf.pdf, (accessed on 20 December 2017)

Through the Climate Action Programme 2020, Germany committed to achieve a reduction of 33% to 34% GHG emissions.[158] This percentage is higher than the previously mentioned EU commitments for 2020 by a 20% reduction. In addition, Germany has a differentiated responsibility since it is the largest emitter in the European Union. For future plans, European Council has decided to set policies on 2030 targets following 2020. EU has committed to reduce its GHG emissions by 40% from the baseline year.[159]

[158] "The German Government's Climate Action Programme 2020," p. 12.

[159] "The German Government's Climate Action Programme 2020," p. 28.

3.7. Conclusion

To conclude, this chapter illustrated the domestic priorities and external relations of Germany in line with climate change regime. It has found that, EU's policies and directions were important issues for shaping Germany's strategies. However, what is deduced from this chapter, is that Germany put forward strategies which did not affect its growth in economic terms, energy and environment, before and after the Paris Agreement. Future projections predict that Berlin would support emission reduction targets. The next chapter will analyse China's evaluation of priorities in climate change regime.

CHAPTER 4

CHINA

4.1. Introduction

In this chapter, China's participation and relation with other major players on climate change policies before and after the Paris Agreement, including future targets and projections will be evaluated. China has a unique position in climate change policies because it has the greatest emission rates and needs to realize its expansion of capacity while the country is vulnerable to the effects of global warming. It is noted that even China supported limited participation in global climate regime before the Paris Agreement; after the Agreement, China enhanced its reciprocal relations with EU through climate change cooperation, in order to fulfil joint climate leadership and take the responsibilities on green development.

4.2. Structure of China on Climate Change

Harris and Yu characterise Chinese international climate policies by introducing several targets in relation to preserving its capacity, obtaining environmental funding, technology transfer and assuring developments in the economy. In this regard, the authors highlight China's dual position in terms of its responsibility, by being a developing country which has the legitimacy to expand its economy while shouldering the burden as one of the planet's greatest emitters.[160] In addition, climate change affects low latitude countries and China has faced several climate disasters

[160] J. Paul G. Harris and Hongyuan Yu, "Climate Change in Chinese Foreign Policy: Internal and External Responses," in *Climate Change and Foreign Policy: Case Studies from East to West,* ed. Paul G. Harris (London: Routledge, 2009), p. 57.

due to the effects of climate change. For example, these disasters have cost more than 103 billion Yuan in crop losses during 2014, alone.[161]

It has been evaluated that anthropogenic causes of climate change are visible in many cities of the country. Specifically, Shanghai and Tianjin have suffered from extreme weather consequences of global warming. Sources such as capacity in various industries and ports have damaged the economy of China.[162] As the studies indicate, climate change has affected the Chinese economy in relation to production capacity, for example, from 1950 to 2000, 9.37 million hectares of land was flooded causing a 3% decrease in agricultural economic activities.[163]

In relation to China's general structure, China as a developing country has a low emission level at the beginning of the industrial revolution; however, according to China's Second National Communication, there is a 0.89% increase in GHG emissions from 1994 to 2005.[164]

Until 2008, China's CO2 emission rate was in steady growth between the years 1990 and 2007, respectively from 2,168 million metric tons of CO2 to 5,154 metric tons of CO2.[165] Respectively, China has shown an upward trend in GHG emissions, because

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[161] The People's Republic of China First Biennial Update Report on Climate Change," UNFCCC, p. 2, https://unfccc.int/files/national_reports/non-annex_i_parties/biennial_update_reports/application/pdf/pr_china-_bur-chinese+en.pdf, (accessed on 20 February 2018)

[162] *"Change and National Security: An Agenda for Action*," Joshua W. Busby, (Council on Foreign Relations Press: 2007), pg. 8

[163] "Second National Communication on Climate Change of the People's Republic of China," UNFCCC, p. 12, http://unfccc.int/resource/docs/natc/chnnc2e.pdf, (accessed on 15 August 2017)

[164] "Second National Communication on Climate Change of the People's Republic of China," p. 74

[165] "CO2 Emissions China," The World Bank, http://data.worldbank.org/indicator/EN.ATM.CO2E.PC?end=2013&locations=CN&start=1990, (accessed on 15 August 2017)

1990 levels were estimated at 780,726.30 kt CO2, while the last data demonstrated 10,291,926.88 kt of CO2 emissions.[166]

These illustrations were analysed in order to demonstrate how China's structure is shaped by climate change. From these evaluations, the next section will explain the policies of China before the Paris Agreement, in order to ascertain the main motivations during the early and mid-period of climate change policies.

4.3. Climate Change Policies of China before the Paris Agreement

4.3.1. China's Early Climate Change Policies

From the information in line with China's structure, starting with the early climate change policies of China, China's participation in climate regime started in 1998 with the establishment of the National Coordination Committee on Climate Change. The Group consisted of several members from "NDRC, Foreign Ministry, Ministry of Science and Technology, CMA, SEPA and other ten ministerial-level departments".[167] The organisation enacted several policies in terms of energy, development, inter-agency coordination and implementation of domestic targets in line with climate change. The National Climate Change Coordination Group was responsible for the harmonisation of policy priorities of each department in relation with climate change.[168]

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[166] "CO2 Emissions," World Bank, https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?view=map, (accessed on 10 June 2017)

[167] Gang Chen, *China's Climate Policy* (New York: Routledge, 2012), p. 25.

[168] Hongyuan Yu, "International Institutions and Transformation of China's Decision-making on Climate Change Policy," in *Chinese Journal of International Politics* 1, no. 4, (2007), 497-523, p. 514.

4.3.2. China's Participation to UNFCCC

From the information above, however, it is noted that China gained remarkable visibility in climate policies following the country's involvement in UNFCCC. In line with China's participation of the UNFCCC process, Harris et al. defines this period in three stages. First of all, the authors believe that China raised domestic policies regarding common but differentiated policies and the strategy was to enhance China's technological status while tackling climate change until 1992.[169] The second period from 1992 to 1997 included obstacles in engaging with the Kyoto Protocol and its emission reduction commitments.[170] The final stage was the set of policies enacted for embracing the Kyoto Protocol. Specifically, these policies led to concerns in China, in terms of developing countries' objective responsibilities for certain GHG emission reduction obligations. According to the authors, after the culmination of these important stages, China fostered its policy by sharing the international responsibilities behind GHG emissions.[171]

Furthermore, China was placed in non-Annex-I countries under UNFCCC and even though it had one of the greatest emission rates in the world, it embraced few policy targets, by targeting a 5% reduction from 2008 to 2012 from the 1990 baseline level, because of the non-binding mitigation targets on non-Annex-I countries.[172] Besides, China demonstrated their accurate position in COP3. According to their statement in

[169] Harris and Yu, "Climate Change in Chinese Foreign Policy: Internal and External Responses," p. 58.

[170] Harris and Yu, "Climate Change in Chinese Foreign Policy: Internal and External Responses," p. 59.

[171] Harris and Yu, "Climate Change in Chinese Foreign Policy: Internal and External Responses," p. 58-59.

[172] "Report of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997," in *Earth Negotiations Bulletin* 12, no. 76, (1997), http://enb.iisd.org/vol12/enb1276e.html, (accessed on 10 June 2017)

COP3, "This is not the time to address developing country commitments, but to strengthen developed country commitments."[173]

Expanding on the above statement, according to UNFCCC Article 4.7, "The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties."[174] In this respect, in accordance with UNFCCC's Article 4.7, China targeted a 40-45% decrease in GHG emissions by 2020 from 2005.[175]

Notably, Annex-I countries were obliged to reduce their GHG emissions within the framework of UNFCCC. In this regard, China carried out several mitigation targets to "…take effective measures to improve energy efficiency, promote energy conservation, develop renewable energy, strengthen ecological preservation as well as carry out tree planting and afforestation in an endeavor to control its GHG emissions and to make contribution to mitigating climate change."[176] In addition, China stated its obligation to pursue commitments in line with the protocol between the years of 2008 and 2012.[177]

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[173] "Report of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997."

[174] United Nations Framework Convention on Climate Change." United Nations, 1992. https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

[175] Joyeeta Gupta, "The Paris Climate Change Agreement: China and India," in *Climate Law* 6, no. 1-2 (2016), 171-181, p. 174, DOI: 10.1163/18786561-00601012.

[176] "China's National Climate Change Programme (Key Elements)," United Nations, p. 3, http://www.un.org/ga/president/61/follow-up/climatechange/China-KeyElements.pdf, (accessed on 20 June 2017)

[177] "China's National Climate Change Programme (Key Elements)," p. 3.

4.3.3. China and Kyoto Process

Furthermore, even though China was opposed to developed countries' insufficient policy targets as mentioned in the previous section, Beijing ratified Kyoto in 2002 and was listed under non-Annex I countries which were not obligated to set certain emission targets.[178] After ratification of Kyoto, China became associated with the Group of 77 (G-77). In order to control developing countries' priorities and to make visible differences in economic needs among parties ratified by Kyoto in climate change regime, G-77 was recognised as the biggest developing countries intergovernmental organisation in UN.[179] According to Lewis, "The G-77 provides a means for these countries to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major issues within the UN system".[180] China as the largest developing country GHG emitter, engaged into G-77 group in the interests of not acting alone in climate negotiations and lead the decisions of G-77.[181]

As a developing country, China was not obligated for certain emission reduction targets of Kyoto, but China was participant to a Clean Development Mechanism (CDM).[182] According to the definition of CDM of UNFCCC, "The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tones of CO2. These CERs can be

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[178] "Report of the Third Conference of the Parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997."

[179] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," in *The Washington Quarterly* 31, no:1, 155-174, (The Center for Strategic and International Studies and Massachusetts Institute of Technology, 2007), p. 162.

[180] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," p. 162.

[181] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," p. 162.

[182] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," p. 163.

traded and sold, and used by industrialized countries to a meet a part of their emission reduction targets under the Kyoto Protocol".[183] From this point, CDM enabled China to enhance its economic position through projects in line with emission reduction and low carbon technology.[184] Even though there were several concerns about foreign investment in the Chinese market by CDM projects during the Kyoto process, China became a leading developing country in CDM, and led to 1.2 billion tons of CO2 credits in line with the Kyoto commitment period.[185]

4.3.4. Mid Period of China's Climate Change Policies

In addition to the above comments, China under the UNFCCC, China's National Climate Change Programme (CNCCP) was enacted in order to maintain comprehensive policies, priorities and strategies for climate change in light of domestic development strategies in the economy and energy until 2010.[186] Notably, the strategy highlighted one of the major positions of China in climate change policies, which addressed China as a low-level developed country in economic terms and because of that, it demonstrated the low capacity of China to meet climate change requirements.[187] Thus, the programme schemed efforts to enhance the capacity in cooperation and it is noted that China aimed to enhance their carbon sink capacity by 50 million tons to 2005 levels.[188] According to the Programme report,

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[183] "What is THE CDM,"UNFCCC, https://cdm.unfccc.int/about/index.html (accessed on 20 July 2018)

[184] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," p. 165.

[185] Joanna L. Lewis, "China's Strategic Priorities in International Climate Change Negotiations," p. 165.

[186] "China's National Climate Change Programme," National Development and Reform Commission People's Republic of China, p. 2, http://en.ndrc.gov.cn/newsrelease/200706/P020070604561191006823.pdf, (accessed on 20 June 2017)

[187] "China's National Climate Change Programme," p. 2,

[188] "China's National Climate Change Programme (Key Elements)", p. 2.

"The first and overriding priorities of developing countries are sustainable development and poverty eradication. The extent to which developing countries will effectively implement their commitments under the Convention will depend on the effective implementation by developed country of their basic commitments".[189]

Additionally, the Programme also highlighted the international cooperation of China before the Paris Agreement in energy consumption policies, which shared the greatest portion of emissions. These targets can enable China to organise energy reduction from 1.22 tons to 1 ton of coal in 2010, in order to achieve the 20% emission reduction target, building an alternative energy supply by improving each year with a level of 10%, enhancing the carbon-sink to 50 million tons by 2010.[190] On the other hand, estimations stated that China's targets did not correspond with the country's GHG emission graphics. According to World Bank Data, Chinese GHG emissions were calculated at 47,216,058.671 kt of CO2, while the latest data estimated 53,526,302.828 kt of CO2 which is some distance from the 20% target.[191]

Also, principles of China indicated that China was willing to enhance its energy-efficiency policies in order to limit GHG emissions. Indeed, as the National Climate Change Programme indicates, China supported alternative sources of energy and technology in line with its energy consumption and carbon-sink policies of 2010 targets.[192] In this framework, Renewable Energy Law of the People's Republic of

[189] "China's National Climate Change Programme," p. 24.

[190]"The Bali Roadmap: Key Issues Under Negotiation," UNDP, p. 98, http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Climate%20Change/Bali_Road_Map_Key_Issues_Under_Negotiation.pdfhttp:/www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Climate%20Change/Bali_Road_Map_Key_Issues_Under_Negotiation.pdf, (accessed on 10 June 2017)

[191] "Total Greenhouse Gas Emissions," The World Bank, https://data.worldbank.org/indicator/EN.ATM.GHGT.KT.CE?start=2005, (accessed on 20 June 2017)

[192] "China's National Climate Change Programme." p. 26-29.

China was enacted in 2013.[193] According to Article 4, "The state shall give priority to the development and utilization of renewable energy in energy development and promote the establishment and development of the renewable energy market by setting an overall target for the development and utilization of renewable energy and adopting corresponding measures."[194]

Following the developments in the mid-2000s, even though China had several developments in climate change regulations, China's GHG emissions had increased dramatically during the 2000s and global concern of China's emissions led to the construction of several domestic policies in China.[195] However, China had some obstacles regarding integration of its domestic priorities in national departments and interagency instruments.[196] According to Chen, "China's development-first climate stance is closely related to the interactive structure of its inter-agency mechanism on climate change, in which the NDRC, a macroeconomic and energy management agency, has been playing a pivotal role, while Ministry of environmental Protection, successor to the State Environmental Protection Administration (SEPA) and China Meteorological Administration (CMA), are marginalized".[197] However, in this structure, National Development and Reform Commission (NDRC) was sceptical about the causes of climate change and its mechanism was to enhance China's capacity in the economy, specifically, in energy supply. Therefore, it was against

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[193] " Renewable Energy Law of the People's Republic of China," Ministry of Commerce People's Republic of China, http://english.mofcom.gov.cn/article/policyrelease/Businessregulations/201312/20131200432160.shtml, (accessed on 5 January 2018)

[194] " Renewable Energy Law of the People's Republic of China."

[195] Alina Averchenkova, Samuela Bassi, Keith Benes, Fergus Green, Augustin Lagarde, Isabella Neuweg and Georg Zachmann, "Climate Policy in China, the European Union and the United states: main drivers and prospects for the future," in *Centre for Climate Change Economics and Policy*, (2016), p. 14.

[196] Yu, "International Institutions and Transformation of China's Decision-making on Climate Change Policy," p. 508.

[197] Chen, *China's Climate Policy,* p. 25.

emission reduction targets which might have harmed China's growth in economic terms**.** Additionally, China followed a "development first" policy**.**[198]

Furthermore, the 11th Five Year Development Plan contained energy efficiency targets for economic growth for the first time, and China targeted a 20% decrease in its energy usage from 2005 levels.[199] According to a speech by Ma Kai, the chairman of NDRC, "The trend of ecological and environmental degradation will be curbed preliminarily, and the total emission volume of major pollutants will be reduced by 10%. In cities, 70% of wastewater and 60% of residential garbage will be treated. The forest coverage rate is expected to reach 20%. 100 million rural residents will be provided access to safe drinking water, and 1.2 million kilometres of rural roads will be newly built and upgraded".[200] However, the 11th Five Year Plan was not sufficient to develop a sustainable climate change policy for China, which had been the biggest CO2 emitter in this five years period. In line with 2011 data, 9 billion of CO2 emission was reached by China by 2011.[201] From these assertions, it can be deduced that China should take further responsibilities to achieve its commitments in the 11th Five Year Plan.

Moreover, the illustrations demonstrate that China's policies on climate change reflects its external relations with major players. Men et al. states that national interests, motivations and initiatives can affect the relations between EU and China. In this regard, as the authors mention, the international climate policies between China and EU should not interfere in the main domestic interests, China's relation

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198 Chen, *China's Climate Policy*, p. 26-27.

199 Bindu N. Lohani, "Climate of Opportunity: Developing Asia's Potential to Address Climate Change," in *Global Journal of Emerging Market Economies* 1, no. 3, (2009), p. 326.

200 "The 11th Five-Year Plan: Targets, Paths and Policy Orientation," National Development and Reform Commission (NDRC) People's Republic of China, http://en.ndrc.gov.cn/newsrelease/200603/t20060323_63813.html, (accessed on 1 January 2018)

201 Zhu Liu, *Carbon Emissions in China* (Berlin: Springer, 2016), p. 4.

with EU in terms of market, resource and technology and other interests enable peaceful harmonisation.[202] Also, not only would China benefit from cooperation but the EU would also gain several advantages with the interest of building an effective alliance with China in order to be able to access China's market and get support from China in global negotiations.[203]

Regarding this point, China and EU's partnership started in 2005 by an annual EU-China Summit which led to common policy for international cooperation, as well as for North and South relations.[204] During the Chinese and EU Summit of 2005, one of the outcomes was climate change mitigation. As a product of this Summit, the partnership evolved and cooperation within the scope of clean energy with the goal of "zero emission" was initiated.[205] The partnership reflected two main topics for 2020 goals, which were reducing coal emissions by "zero emission coal technology"[206] through the development of coal technology.[207] The joint statement of EU and China proclaimed, "The two sides emphasized the importance of high-level political dialogue and consultations at all levels in enhancing understanding, expanding common ground and advancing bilateral relations. Leaders… agreed to launch a regular vice foreign ministerial strategic dialogue mechanism by the end of

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[202] Jing Men and Etienne Reuter, *China - EU: Green Cooperation* (New Jersey: World Scientific Publishing: 2015), p. xxviii.

[203] Men and Reuter, *China - EU: Green Cooperation*, p. xxviii.

[204] Xiudian Dai and Zhiping Diao, "China and the European Union's Leadership Ambition," in *The European Union as Leader in International Climate Change Politics,* ed. R. Wurzel and J. Connelly (Abingdon: Routledge, 2011), p. 262.

[205] "EU and China Partnership on Climate Change," European Commission, (2 September 2005), https://ec.europa.eu/clima/sites/clima/files/international/cooperation/china/docs/joint_declaration_ch_eu_en.pdf, (accessed on 20 June 2018)

[206] Zero emission coal technology means capturing carbon emissions caused by coal fired power plant and its storage in underground such as emissions in exploited fields or sealed geological strata.

"EU and China Partnership on Climate Change."

[207] "EU and China Partnership on Climate Change," European Commission."

2005 to discuss important international and regional issues and exchange views on bilateral issues of common concern".[208]

Another point that merits consideration, is that China has economic ties with other major players. China's over-integration and massive usage of resources, has paved the way for dependency on cheap Chinese products, starting in 2006. It was estimated that in 2006, export rates would have the greatest share of Chinese GDP with 40% in 2006.[209]

Subsequently, Beijing released a "White Paper on China's Policies and Actions for Addressing Climate Change" to increase capacity of China in global climate change cooperation.[210] The strategy convincingly mentions how climate change policies and domestic policies relating to the economy, environment and energy, are paralleled. According to the White Paper China pursues several policies in scientific knowledge, increase capacity, enhance economic development, manage energy efficiency, enhance global cooperation and foster technology for sustainable development.[211]

Furthermore, in relation to this development, the President of People's Republic of China Hu Jintao enacted "Circular Economy Promotion Law" in order to maintain climate policy in 2009. The Circular Economy Promotion Law developed regional policies and encouraged certain provinces of China to invest in projects under the policies of growth, by defining economy, raising GDP, and promoting a sustainable

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[208] "Joint Statement of the 8th EU-China Summit," European Commission, http://europa.eu/rapid/press-release_IP-05-1091_en.htm?locale=en, (accessed on 10 February 2017)

[209] Peter Christoff, "Cold climate in Copenhagen: China and the United States at COP15," p. 645.

[210] "White Paper: China's Policies and Actions on Climate Change," China.org.cn, http://www.china.org.cn/government/news/2008-10/29/content_16681689_5.htm, (accessed on 15 February 2018)

[211] "White Paper: China's Policies and Actions on Climate Change."

environment.[212] These pilot projects were obligated to incentivise the usage of land, as well as, recycle iron and steel, other metals and energy with different scopes of policy obligation.[213]

Following the 11th Five Year Plan, the 12th Five Year Plan for National Economic and Social Development was fostered, as a strategy for economic development in China due to multiple challenges on the economy, market, environment and risks. Following the 11th Five Year Plan, China's energy sufficiency goal of 20% reduction target starting from 2005 levels to 2010 was enacted.[214] Besides, in the 12th Five Year Plan of China, the energy consumption target was shown to be 18.2% per unit GDP reduction in overall energy intensity, specifically a 20% reduction in carbon emissions.[215] China's 12th Five Year Plan put further steps in place, to enhance the duties of China, as well as, introduce sustainable economic standards for China.[216] Additionally, China's 12th Five Year Plan formulated the efficient use of energy, sources, and enhancing the capacity of low carbon technology in order to reduce the effects of GHG emissions. China has targeted the development of its consumption of renewable-sources.[217]

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[212] "China Circular Economy Promotion Law," The World Bank, https://ppp.worldbank.org/public-private-partnership/library/china-circular-economy-promotion-law, (accessed on 25 March 2017)

[213] "Circular Economy Promotion Law of the People's Republic of China," Investment Promotion Agency, http://www.fdi.gov.cn/1800000121_39_597_0_7.html, (accessed on 16 June 2017)

[214] "Energy Intensity Target of the 11th Five Year Plan," Industrial Efficiency Policy Database, http://iepd.iipnetwork.org/policy/energy-intensity-target-11th-five-year-plan, (accessed on 10 April 2017)

[215] "The 13th Five-Year Plan for Economic and Social Development of The People's Republic of China 2016-2017," Central Committee of the Communist Party of China, p. 4, http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf, (accessed on 15 March 2017)

[216] De las Heras, "EU-China Cooperation on Greenhouse Gas (GHG) Mitigation Towards a Potential International Emission Trading Scheme," p. 11.

[217] Men and Reuter, *China - EU: Green Cooperation*, pg. xxix.

Following the 12th Five Year Plan, China enacted a National Strategy for Climate Change Adaptation and Urban Action Plan for Climate Change Adaptation policies in 2013. Both polices focused on adaptation of existing policies of climate change in line with its domestic targets by enhancing the capacity of "…basic research on observation, prediction, and impact assessment of climate change to improve the capability to monitor and warn against extreme weather and climate events and prevent and reduce disasters, thus advancing agricultural production, major infrastructure projects, water management, and city operation".[218] According to Yun, in both policies, China enhanced its capacity in line with "…its basic research on observation, prediction, and impact assessment of climate change to improve the capability to monitor and warn against extreme weather and climate events and prevent and reduce disasters, thus advancing agricultural production, major infrastructure projects, water management, and city operation".[219]

Also**,** before the Paris Agreement, China developed its bilateral relations with other major players and played a cooperative role on Agreement's binding rules and regulations. Accordingly, in 2015, EU and China released an EU-China Joint Statement on Climate Change. According to the statement, "The Two Sides commit to work together to reach an ambitious and legally binding agreement at the Paris Climate Conference in 2015 that enhances the implementation of the Convention, on the basis of equity and reflecting the principle of common but differentiated responsibilities and respective capabilities, in light of different national circumstances".[220] This partnership was also strengthened after the Paris Agreement which will be explored in following sections.

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[218] Gao, "China's response to climate change issues after Paris Climate Change Conference," p. 238

[219] Gao, "China's response to climate change issues after Paris Climate Change Conference," p. 238.

[220] "EU-China Joint Statement on Climate Change," European Council, (29 June 2015), http://www.consilium.europa.eu/media/23733/150629-eu-china-climate-statement-doc.pdf, (accessed on 2 July 2018)

Before the Paris Agreement, China developed its relations with US during the Obama period. Thus, China and the US launched biennial cooperation with the Joint Statement of President Obama and President Xi for post-2020 climate targets, which describes a common vision for a new global climate agreement to be concluded in Paris.[221] In line with the Joint Presidential Statement on Climate Change, in order to carry US-China biennial cooperation, China launched its "National Emissions Trading System 2017". The project was crucial for Chinese emission reduction, because it was designed to minimise emissions in energy, the paper industry, heavy metals and chemical waste which levies the greatest GHG emissions in the country.[222] Also, in accordance with the joint statement China specifically declared its intention to enhance the usage of non-fossil fuels as the primary energy consumption of 20% by 2030.[223] Therefore, China put several steps in place to develop its relations with other major players before the Paris Agreement. These are the main driving forces of the mid policies before the Paris Agreement. The next section will illustrate the COP process which served as the roadmap for the Paris Agreement.

[221] "U.S.-China Joint Announcement on Climate Change", The White House Office of the Press Secretary, (12 November 2017), obamawhitehouse.archives.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change, (accessed on 4 April 2017)

[222] "The United States and China Issue Joint Presidential Statement on Climate Change with New Domestic Policy Commitments and a Common Vision for an Ambitious Global Climate Agreement in Paris."

[223]Gupta, "The Paris Climate Change Agreement: China and India," p. 174.

4.3.5. COP before the Paris Agreement and China

Before the Paris negotiations in COP21, in accordance with the negotiations in COP16 in Cancun, the statement of China highlighted the common development of the leading roles of developed countries through financial and technological support offered to developing countries. China raised the key elements of the responsibilities of developed countries which did not ratify the Kyoto Protocol and developing countries own efforts in relation to their capacity.[224]

China, according to their Cancun Pledges, targeted a 40-45% reduction of emissions by 2020 in contrast to 1990s levels and The Emission Gap Report of 2017 states that China will achieve 42% of emission reduction by following their current policies.[225]

The strategies of China in COP16 were reflected in COP17 in 2011 and China highlighted "common but differentiated responsibilities". In this regard, in accordance with the speech of Xie Zhenhua, China committed to 40-45% of CO2 emission reduction in line with 2020 Plans and also declared to put into force the 12th Five Year Development Plan.[226]

Also, in line with COP20, China declared its INDC from 60% to 65% reduction in CO2 emissions by 2030 and to enhance usage of non-fossil fuels by approximately 20%.[227] Therefore, China expanded the use of natural gas, development of nuclear,

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[224] "Speech at the High-Level Segment of COP16&CMP6 by Vice Chairman Xie Zhenhua," UNFCCC, speech, p. 1-3, https://unfccc.int/files/meetings/cop_16/statements/application/pdf/101208_cop16_hls_china.pdf, (accessed on 8 June 2018)

[225] "The Emission Gap Report 2017," p. 8.

[226] "Speech at the High-Level Segment of COP16&CMP6 by Vice Chairman Xie Zhenhua."

[227] "Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions," UNFCCC, p. 5, http://www4.unfccc.int/Submissions/INDC/Published_Documents/China/1/China's INDC - on 30 June 2015.pdf, (accessed on 20 January 2018)

wind and solar power as mentioned in its declaration. Additionally, China supported a new path for its energy efficient industrial system, to promote recycling based industrial systems by improving control mechanisms, including GHG emission standardisation.[228] China followed these policies during the road to Paris. The next section will analyse China's policies after the Paris Agreement.

4.4. Climate Change Policies of China after the Paris Agreement

Starting with the paths just before the Paris Agreement, CO2 emissions were increasing between 2007 and 2013 starting at 5.2% rising to 7.6%.[229] However, China's policies were in unison with the Agreement. Before the government sanctioned the Agreement, it was referred to the State Council of China, "The Chinese government constantly sets great store by the issue of climate change and has included addressing climate change into its mid- and long-term planning for economic and social development as a major issue concerning its overall economic and social development."[230] China put forward its climate policies in line with its domestic priorities, according to the State Council.

In relation to above position of China, Beijing participated in Paris Agreement negotiations with high level representatives. The president Xi Jinping attended the Conference and it was the first time for China in terms of direct negotiations with other top-leader representatives**.**[231] In the conference, President Jinping mentioned

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[228] "Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions," p. 8.

[229] "CO2 Emissions (metric tons per capita) of China," The World Bank, https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=CN, (accessed on 15 August 2017)

[230] "China's Policies and Actions for Addressing Climate Change," The State Council, (2011), http://english.gov.cn/archive/white_paper/2014/09/09/content_281474986284685.htm, (accessed on 20 March 2017)

[231] Gao, "China's Response to Climate Change Issues After Paris Climate Change Conference," p. 236.

China's INDC ambitions of decreasing emissions by 60% to 65% CO2 per unit until 2030 compared with 2005 levels.[232] During the Conference, the President highlighted the relation between economic growth and the environment. According to his speech in the Conference,

> "In the past few decades, China has seen rapid economic growth and significant improvement in people's lives. However, this has taken a toll on the environment and resources. Having learned the lesson, China is vigorously making ecological endeavours to promote green, circular and low-carbon growth. We have integrated our climate change efforts into China's medium- and long-term program of economic and social development."[233]

Therefore, it can be concluded, that in contrast to China's coalition with US during the Obama period, China's supportive participation to the Paris Agreement is clearly evident, even after the withdrawal of the Trump administration. Pickering et al. mentions that this stems from the affordable prices of renewable energy, domestic economic policies and support of sectors in clean energy technologies. For this reason, the greatest emitter, China, was not affected by the withdrawal and Pickering et al. demonstrates that China affirmed the climate change mitigation policies to support human health and energy efficiency.[234]

4.5. Mitigation Targets of China

From these evaluations, for future mitigation targets, several steps were taken by China in order to sustain its climate change policies. The future outlook of China demonstrates that China develops and enhances its domestic climate policies with supporting economic growth and green development as seen in the 13th Five Year

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[232] Gao, "China's Response to Climate Change Issues After Paris Climate Change Conference," p. 236.

[233] "Full Text of President Xi's Speech at Opening Ceremony of Paris Climate Summit," China Daily, http://www.chinadaily.com.cn/world/XiattendsParisclimateconference/2015-12/01/content_22592469.htm, (accessed on 27 January 2018)

[234] Pickering, McGee, Stephens and Karlsson-Vinkhuyzen, "The impact of the US retreat from the Paris Agreement: Kyoto revisited?" p. 4.

Plan.[235] According to studies, China will reach its NDC for 2030 targets by at least a 60-65% decrease in energy intensity compared to 2005 levels. However, the same data also illustrates that China's GHG emissions will remain in growth because of the CO2 emissions from energy, industry and consumption.[236]

Starting from 2014, China launched the National Climate Change Plan which covers the map for policies for 2020. On this route, the vice premier Zhang Gaoli expressed his future global objectives for 2020 in 2014 during the United Nations Climate Summit. According to his speech, the emission reduction target of 40% to 45% between the years of 2020 and 2005 was expressed.[237] Additionally, he added China's participation for post-2020, in terms of fostering fossil fuels and carbon sinks and remarking that climate change was a common problem for humankind, with the objective to support global climate change regimes and build relations between countries.[238]

China should parallel its domestic priorities in the economy, energy and the environment with its climate change policies. In this regard, the future climate change policies of China as indicated in its INDC suggests that China will reduce its CO2 level by 60-65% in relation to 2005 level in 2030.[239] However, China should

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[235] Averchenkova, Bassi, Benes, Green, Lagarde, Neuweg and Zachmann, "Climate Change Policy in China, the European Union and the United states: main drivers and prospects for the future,"

p. 27.

[236] Averchenkova, Bassi, Benes, Green, Lagarde, Neuweg and Zachmann, "Climate Change Policy in China, the European Union and the United states: main drivers and prospects for the future,"

p. 27.

[237] "Zhang Gaoli Attends UN Climate Summit and Delivers Speech," Ministry of Foreign Affairs of the People's Republic of China, accessed http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1194544.shtml, (accessed on 10 May 2017)

[238] "Zhang Gaoli Attends UN Climate Summit and Delivers Speech."

[239] "Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions," p. 5.

take on more commitments in order to achieve its target in INDC. It is estimated that CO2 emissions will increase 9000 Mt CO2 even with projected emission rates.[240]

China supports future policies by changing its route energy-intensive targets. From this perspective, China supports renewable and energy intensive sources through new technologies in industry, creating new job opportunities and energy security measurements for its future plans.[241] For instance, China has put several new standards in place for new goods, buildings and vehicles.[242]

Following the 2020 plans, China supports EU 2020 climate change goals. The priorities of EU in 2020 emission reduction target of 20%, illustrates that EU pursues goals in alternative usage of renewable energy.[243] On its route, China enhanced its policies with 2020 goals in 2020 EU-China partnership, and the cooperation declares the mutual efforts for sustainable development and consideration of the environment in terms of growth policy.[244]

4.6. China and Future Climate Change Policy Projections

From these mitigation targets, it is obvious that even China had crucial steps to take by paralleling its domestic policies with climate change reduction targets. The Second National Communication report declares that temperatures in China will dramatically increase and according to the most extreme scenario for future

[240] J. Yuan, C. Na, Z. Hu, and P. Li, "Energy Conservation and Emissions Reduction in China's Power Sector: Alternative Scenarios up to 2020," in *Energies* 9, no. 4, (2016), p.12.

[241] Averchenkova, Bassi, Benes, Green, Lagarde, Neuweg and Zachmann, "Climate Change Policy in China, the European Union and the United states: main drivers and prospects for the future," p. 27.

[242] Averchenkova, Bassi, Benes, Green, Lagarde, Neuweg and Zachmann, "Climate Change Policy in China, the European Union and the United states: main drivers and prospects for the future," p. 27.

[243] Men and Reuter, *China - EU: Green Cooperation*, p. xxx.

[244] Men and Reuter, *China - EU: Green Cooperation*, p. xxxiii

prospects, the temperature between 2021 and 2030 will be 0.5°C to 1.5°C higher than the years between 1971 and 2000. Also, it is estimated that China will face a 2% to 4% increase in precipitation.[245]

Moreover, climate change issues have led to extreme natural disasters, impacting China's economy and the health of society, according to several studies. For instance, as Intelligence Council's report demonstrates, sea levels will increase from 0.01 to 0.16 meters and temperature is expected to accelerate from 1.3 to 2.1°C.[246] For these reasons, China should expand its climate change policies in line with its domestic priorities, in order to develop a more sustainable environment, economy and energy platform.

4.7. Conclusion

To conclude, this chapter has illustrated the domestic priorities and external relations of China in line with climate change regime. It has been identified, that China's climate change policies are related with its strategies on protection of its dominant position in international competition. China's position on participation to climate change regime has faced several fluctuations throughout its climate change history and it is evident that after the Paris Agreement, China introduced more emission reduction targets and enhanced its bilateral relations. The next chapter will provide an evaluation of US' priorities on climate change regime.

[245] "Second National Communication on Climate Change of the People's Republic of China," p. 12.

[246] "China: The Impact of Climate Change to 2030 A Commissioned Research Report," National Intelligence Council, report (2009), p. 3, https://www.dni.gov/files/documents/climate2030_china.pdf, (accessed on 25 May 2017)

CHAPTER 5

THE UNITED STATES

5.1. Introduction

In this chapter, US' participation and relation with other major players on climate change policies before and after the Paris Agreement, including future targets and projections will be evaluated. United States climate change policy options play a critical role while studying climate change literature, because it is one of the greatest GHG emitters and its policies impact several countries. This chapter will explore the lack of engagement of US in several global policy targets because of its priorities in growth strategies. However, it is possible to claim that when participation in international institutions were not considered favourable options, the White House abstained from any obligation and initiative that affected the potential growth of the economy.

5.2. Structure of United States on Climate Change

After evaluation of China's climate structure in the previous chapter, it is observed that US took a different position, because studies demonstrate that US is one of the major GHG emitters and responsible for anthropogenic climate change. According to the First Biennial Report, the country's temperature has risen 0.8°C from the first data which was collected in 1895.[247] Also, the warmest years were recorded during 2000s.[248]

[247] "First Biennial Report of The United States of America," U.S. Department of State, report (2014), p. 7, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/first_u.s._biennial_report_rev.pdf, (accessed on 10 May 2017)

[248] "Second Biennial Report of the United States of America," U.S. Department of State, report (2016), p. 7,

Climate change policies of US directly affect the whole global economy and as the data demonstrates, between 1990 and 2016, US was one of the biggest economies in global markets with an increase in the economy from 5.98 Trillion Dollars to 18.624 Trillion Dollars.[249] In contrast to Germany which demonstrates a steady downward trend in carbon emissions as mentioned earlier, US emission had several fluctuations. In accordance with Appendix B, CO2 emissions were estimated at 5,123,042.8 kt CO2 in the base year of 1990. Later, CO2 levels had increased to 6,001,355.9 kt CO2 in 2000. Thus, US carbon emissions were in an upward trend from 1990 to 2000. On the other hand, the same data showed that in the last inventory year, CO2 emissions dropped back to 5,411,409.1 kt CO2 in 2015.[250] This data shows that rates of US emissions varied greatly. The following points will investigate the historical process of US climate policies behind this data.

5.3. Climate Change Policies of US before the Paris Agreement

5.3.1. US' Early Climate Change Policies

Following consideration of the climate structure of US in the previous notations, the main motivations of US on climate change policies before the Paris Agreement will be illustrated. US climate change policies were started in 1980s with a report presented to President Jimmy Carter in order to demonstrate changing climate due to temperature increases. As Carter claimed, climate change needed transboundary solutions and cooperation among multiple actors.[251] However, US raised the question

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https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/2016_second_biennial_report_of_the_united_states_.pdf, (accessed on 10 May 2017)

[249] "United States," The World Bank, https://data.worldbank.org/country/united-states, (accessed on 10 June 2017)

[250] GHG Profiles – Annex I / United States of America," UNFCCC, http://di.unfccc.int/ghg_profile_annex1, (accessed on 10 June 2017)

[251] Heffron, "What Do Realist Think About Climate Change*,"* p. 7.

for scientific reality behind climate change and initiated their policy options based on domestic, rather than international policies.[252] In 1980s, US scepticism on climate change issues can be observed after the election of Ronald Reagan. US abstained from new emission reduction commitments and prevailing policies in the market can be identified during this period.[253] Throughout the history of US climate change policy, the ‘’cap and trade system’’ was at the core of domestic policies of US. Indeed, during 1970s, US comprised policies in line with balancing its environmental quality and costs, such as the Clean Air Act, Clean Water Act and the Resource Conservation and Recovery Act.[254]

United States Environmental Protection Agency (EPA) was introduced in 1970 to sustain regulations in order to serve as a protection for human health and the environment. Furthermore, the Clean Air Act was enacted to develop national based regulations on controlling air quality, to reduce GHG emissions for which EPA was responsible regarding the enforcement of regulations.[255] However, even though EPA enacted the Act in 2010, it had several points that merited questioning by US Congress members, specifically relating to the Act’s cost-effectiveness.[256]

[252] Daniel Bodansky, “The History of Global Climate Change Regime,” p. 29.

[253] Christopher Schroeder and Robert L. Glicksman, “The United States’ Failure to Act,” in *Economic Thought and U.S. Climate Change Policy*, ed. David M. Driesen (Cambridge, Mass. : MIT Press, 2010), 21-45, p. 24.

[254] David Driesen, “Introduction,” in *Economic Thought and U.S. Climate Change Policy*, ed. David M. Driesen, (Cambridge, Mass.: MIT Press, 2010), 1-19, p. ix.

[255] “US Climate Change Policy,” European Parliament, (2015), p. 11-12, http://www.europarl.europa.eu/RegData/etudes/STUD/2015/536321/IPOL_IDA(2015)536321_EN.pdf, (accessed on 5 January 2018)

[256] “US Climate Change Policy,” p. 12.

In this framework, before the election of George H. W. Bush, he had introduced bringing in the "White House Effect" promise to deal with climate change.[257] Indeed, he was opposed to binding commitments as seen in 1992 United Nations Conference on Environment and Development in Rio.[258] Also, Bush was clearly against and sceptical about international commitments and mandatory regulations and did not seek comprehensive climate policies.[259]

In the international framework, US distinction from global policies can be observed at the Bergen Conference of 1990, because US rejected adaptation goals, time agendas, and mitigation targets by demonstrating its policy options.[260] After this action, even the great majority of industrialised nations conceded on emission reduction goals from 1990 to 2000. The identified targets were not achieved due to the contrary position of US and the minority of some countries.[261]

Also, during 2000s, it was evident that US domestic climate change policies were crucial for global policies, because US was the greatest GHG emitter until 2000 when China surpassed the total number of emissions in 2007.[262] During the early years of climate change regime, before the Paris Agreement, it was estimated that US

[257]Gary Bryner, "Failure and Opportunity: Environmental Groups in US Climate Change Policy," in *Environmental Politics* 17, no. 2. (2008), 319-336, p. 323.

[258]Bryner, "Failure and Opportunity: Environmental Groups in US Climate Change Policy," p. 323.

[259]Bryner, "Failure and Opportunity: Environmental Groups in US Climate Change Policy," p. 323.

[260] Bodansky, "The History of Global Climate Change Regime," p. 29.

[261] "The Bergen Conference and Its Proposals for Addressing Climate Change," UNFCCC, https://unfccc.int/resource/ccsites/senegal/fact/fs220.htm, (accessed on 10 May 2017)

[262] Peter Christoff, "Cold climate in Copenhagen: China and the United States at COP15," in *Environmental Politics* 19, no. 4, (London: Routledge, 2010), 637-656, p. 645.

GHG emissions had increased by 17%, correspondingly, data shows that 24 tons of CO2 per capita between the years of 1990 and 2007 were expelled.[263]

5.3.2. US' Participation to UNFCCC

After the early responses, US was the first industrialised country which ratified the Framework Convention on Climate Change. On the other hand, since the Convention enabled voluntary actions, US was against any binding commitments in contrast to EU.[264] Additionally, the Bush administration did not support any binding agreement on emission reduction commitments in UNFCCC discussions during the Earth Summit.[265] The senate also expressed their unwillingness to put binding targets and developing countries' limited participation to international commitments, since the Senate consisted of 52 members out of 100 who came from coal producing industries.[266]

In this framework, one of the products of the Convention was the obligation of mitigation targets and the production of an international reporting process.[267] US obtained UNFCCC in 1992, and it was listed under Annex-I countries with the remaining developed countries.[268] Concerning the first commitment which was obtained in INDC, US goal was to emit 26-28% of GHG emissions from the baseline

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[263] Henrik Selin and Stacy D. Vandeveer, "US Climate Change Politics and Policymaking," in *Wiley Interdisciplinary Reviews: China* 2, no. 1, (2011), 121-127, DOI: 10.1002/wcc.94, p. 121.

[264] Schroeder and Glicksman, "The United States' Failure to Act," p.26.

[265] Dana R. Fisher, *National Governance and the Global Climate Change Regime* (Oxford: Rowman & Littlefield Publishers Inc., 2004), p. 121.

[266] Fisher, *National Governance and the Global Climate Change Regime,* p. 121.

[267] "United Nations Framework Convention on Climate Change," United Nations, (1992), https://unfccc.int/resource/docs/convkp/conveng.pdf, (accessed on 10 June 2017)

[268] Selin and Vandeveer, , "US Climate Change Politics and Policymaking," p. 121.

years 1990 to 2025.[269] However, as an Annex-I country, US obligation to negotiate enormous mitigation targets was neglected by Clinton and later by the Bush Administration with the termination of the Kyoto Protocol, primarily because of developing countries' limited responsibilities, specifically China and India.[270] From this argument, it is possible to claim that US has been timid in its climate change policies because of considerations of the national economy due to the financial cost of cutting GHG emissions. From this perspective, when Bush's growth policies contradicted international responsibilities, the Agreement was not embraced.

After the 2000s, the Senate raised awareness of increasing funding sources in climate change topics in 2001, which added 4.5 billion Dollars to climate change activities, resulting in the decrease of GHG emissions, in line with its participation with UNFCCC, in terms of building effective energy programmes and the development of clean energy technologies.[271] This position was reinforced in 2003 by an Amendment; the Amendment mentioned two important points in terms of action on reducing CO2 emissions in various sectors and carrying out negotiations on the integration of the Kyoto Protocol in line with US interests.[272]

5.3.3. US and Kyoto Process

Subsequently, US position on Kyoto directly reflects its policy initiatives before the Paris Agreement. In Kyoto, US was obligated to take huge responsibilities with the

[269] "USA First INDC Submission," UNFCCC, http://www4.unfccc.int/ndcregistry/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf, (accessed on 10 May 2017)

[270] Elizabeth Chalecki, "Exceptionalism as Foreign Policy: US Climate Change Policy and an Emerging Norm of Compliance," in *Climate Change and Foreign Policy: Case Studies from East to West*, ed. Paul G. Harris (London: Routledge, 2009), p. 150-153.

[271] Henry Lee, Vicki Arroyo Cochran and Manik Roy, "US Domestic Climate Change Policy," in *Climate Policy* 1, no. 3, (2001), 381-395, p. 389-91.

[272] Lee, Cochran and Roy, "US Domestic Climate Change Policy," p. 391.

decrease of its emissions by 7% from the baseline year 1990.[273] However, under Kyoto, as highlighted by Harrison, US needed a 31% decrease in its GHG emissions considering its economy and population, while Europe, Japan and Canada had emission rates of 8%, 6% and 6% respectively. For this reason, US policies needed to make quick decisions which may have affected its competitiveness in contrast to its trading partners.[274]

During the Clinton period, some progress was achieved and Clinton developed several policies to enhance research and programmes on the topic of climate change, such as "Climate Change Technology Initiative".[275] However, in line with Congress opposition on federal activities, Clinton changed domestic targets. For instance, the 1998 provision prohibited EPA to raise rules and regulations regarding the Kyoto Protocol.[276] After 2008, US opposition on international commitments did not change throughout global negotiations. This argument can be clearly distinguished from US President Bill Clinton's speech in Kyoto. According to Clinton, "Third, both industrialized and developing countries must participate in meeting the challenge of climate change. The industrialized world must lead, but developing countries also must be engaged. The United States will not assume binding obligations unless key developing nations meaningfully participate in this effort."[277]

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[273] "Kyoto Protocol," UNFCCC, http://unfccc.int/kyoto_protocol/items/3145.php, (accessed on 10 June 2017)

[274] Kathryn Harrison, "The United States as Outlier: Economic and Institutional Challenges to US Climate Policy," in *Global Commons, Domestic Decisions: The Comparative Politics of Climate Change*, ed. Kathryn Harrison and Lisa McIntosh Sundstrom (Massachusetts: Massachusetts Institute of Technology, 2010), 67-105, p. 68.

[275] Lee, Cochran and Roy, "US Domestic Climate Change Policy," p. 388.

[276] Lee, Cochran and Roy, "US Domestic Climate Change Policy," p. 388.

[277] William J. Clinton, "Remarks at the National Geographic Society," speech, (Washington DC: October 22, 1997), http://www.presidency.ucsb.edu/ws/?pid=53442, (accessed on 20 March 2017)

US was clearly opposed to EU emission reduction decisions under UNFCCC and later the Kyoto Protocol. The Republicans influenced Congress during the Clinton Administration and demonstrated their opposition on binding timetables and inflexible emission goals which could prove harmful in terms of the global competitiveness of US.[278] Even though US signed the Kyoto Protocol in 1998 during the Clinton Administration, the Protocol was not ratified, indeed, it was opposed after the election of President Bush.[279] Additionally, US' withdrawal from the Kyoto Agreement, paved the way for alternative coalitions which permitted the binding timetables and agreements on emission reduction and the differentiation amongst developed and developing countries. In this regard, the Asia-Pacific Partnership on Clean Development and Climate Change (APP) was one of the alternative instruments to UNFCCC.[280]

It was clear that the Bush Administration was against obligations of any description under the Treaty and had concerns with developing countries' limited participation to emission reduction targets.[281] According to Harrison, US opposition to Kyoto can be clarified by the concerns of the business sector, along with the potential electorate. Furthermore, the author mentions that US federal government had demonstrated fragile domestic policies on mitigation targets during Kyoto process.[282]

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[278] Johannes Urpelainen and Thijs Van de Graaf, "United States non-cooperation and the Paris agreement," in *Climate Policy* 7, no. 50, (16 Dec 2017), p. 3.

[279] Urpelainen and Graaf, "United States non-cooperation and the Paris agreement," p. 3.

[280] Jonathan Pickering, Jeffrey S. McGee, Tim Stephens and Slyvia I. Karlsson-Vinkhuyzen, "The impact of the US retreat from the Paris Agreement: Kyoto revisited?" in *Climate Policy* 1, no 11, (22 December 2017), p. 5.

[281] Driesen, "Introduction," p. 1

[282] Kathryn Harrison, "The United States as Outlier: Economic and Institutional Challenges to US Climate Policy," in *Global Commons, Domestic Decisions: The Comparative Politics of Climate Change*, ed. Kathryn Harrison and Lisa McIntosh Sundstrom (Massachusetts: Massachusetts Institute of Technology, 2010), 67-105, p. 67.

5.3.4. Mid Period of US Climate Change Policies

In response to Kyoto Protocol's failure in US, the Senate's Byrd-Hagel Resolution was raised in order to stimulate the Clinton Administration. Accordingly, the Byrd-Hegel Resolution was the notice of US Senate's opposition to international agreements on binding emission reduction targets with a 95-0 vote, because the international agreement might have affected US market superiority.[283] The resolution crucially mentioned, that US could not enter into any kind of agreement that "…would result in serious harm to the economy of the United States".[284] Additionally, the Resolution clearly defined the US' position on the recognition of duties of developing countries. Also, the Resolution pointed out that Annex-I countries should take on international responsibilities in case of "the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period".[285] Thus, as an argument, Kyoto was a huge contrasting of interest issues for US and could harm the US economy when other big industrialised developing nations had fewer duties.

This process also led to the construction of several coalitions within the US. Scepticism in US and opposition to emission reduction binding commitments led to the creation of new climate groups in US, such as the Global Climate Coalition.[286] In line with the Kyoto process, industries vulnerable to price variations due to emission reduction targets were organised as a "conservative non-profit organizations", and

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[283] Schroeder and Glicksman, "The United States' Failure to Act," p. 26.

[284] "Byrd-Hagel Resolution," National Center, https://www.nationalcenter.org/KyotoSenate.html, (accessed on 10 May 2017)

[285] "Byrd-Hagel Resolution," National Center, https://www.nationalcenter.org/KyotoSenate.html, (accessed on 10 May 2017)

[286] Schroeder and Glicksman, "The United States' Failure to Act," p. 27.

the Global Climate Change Coalition was one of them.[287] Namely, "The Atlantic Richfield Coal and Oil Company, Chevron, Chrysler, Ford Motor Company, Texaco, and the Western Fuels Association" were against international binding agreements on GHG emissions and they were effective on building and shaping domestic policy in US.[288] However, the structure of the Global Climate Change Coalition had changed in 2000 and the American Iron and Steel Institute, the American Petroleum Institute and U.S. Chamber of Commerce participated in the coalition, which presented a huge amount of business for its members.[289]

In order to prove the above mentioned point, President George W. Bush's "business as usual" diplomacy was enacted in 2002.[290] Accordingly, Vogler, also highlights that business as usual diplomacy of US, was enacted as a substitute policy for Kyoto and the policies of US were not routed by certain emission reduction goals because of the concerns of possible economic-growth strategies.[291] US did not achieve many of its commitments on climate change policy during the Bush Administration. In light of this argument, the policies of Bush were based on decreasing the GHG intensity in the economy between the years of 2002 and 2012 by 18%.[292] On the

[287] Dana R. Fisher, *National Governance and the Global Climate Change Regime*, p. 108.

[288] Dana R. Fisher, *National Governance and the Global Climate Change Regime*, p. 108.

[289] Dana R. Fisher, *National Governance and the Global Climate Change Regime*, p. 110.

[290] According to Oxford Dictionary, business as usual describes; "An ongoing and unchanging state of affairs despite difficulties or disturbances." In this regard, US business as usual diplomacy on climate change based on stabilization of the current policies by adaptation policies rather than target reduction goals. Oxford Dictionaries, s.v. "business as usual," https://en.oxforddictionaries.com/definition/business_as_usual (accessed on 2 January 2018)

[291] John Vogler, *Climate Change in World Politics* (Basingstoke: Palgrave Macmillan, 2016), p. 93.

[292] "Global Climate Change Policy Book," The White House, (2002), https://georgewbush-whitehouse.archives.gov/news/releases/2002/02/climatechange.html, (accessed on 10 May 2017)

other hand, the total CO2 emission rate remained in growth from 4,084 metric tons per capita to 4,996 metric tons from 2002 to 2012.[293]

In this framework, Republicans were sceptical about the scientific reliability of anthropogenic climate change and subsequently rejected policy instruments which might have affected growth strategies. In addition, they rejected a cut in energy and industrial products which were at the heart of production in US.[294] In this framework, Harrison mentions that the acceptance of policies should be in line with the approval of the House, the Senate and the President.[295] It should be noted that, according to Fisher, "In the United States ratification of the final text of a treaty takes place in the Senate. In other words, the president and his team negotiate the text of what they hope will become a treaty through the approval of the Senate. Before any treaty can be ratified, however, the entire U.S. Congress must approve of implanting the legislation that will enable the United States to meet the requirements of the treaty."[296]

Moreover, climate change policies of US reflect its policy priorities in energy. According to Fisher, it was crucial to evaluate US' energy infrastructure while studying climate change policies, because US is "the largest energy producer, consumer, and net importer in the world."[297] US invested more than 44 billion dollars in climate change and energy security programs, it put forward climate change policy

[293] "United States," The World Bank, https://data.worldbank.org/country/united-states, (accessed on 10 June 2017)

[294] Selin and Vandeveer, "US Climate Change Politics and Policymaking," p. 122-123.

[295] Harrison, "The United States as Outlier: Economic and Institutional Challenges to US Climate Policy," p. 76.

[296] Fisher, *National Governance and the Global Climate Change Regime*, p. 120.

[297] Fisher, *National Governance and the Global Climate Change Regime*, p. 112.

by new advance technologies on tackling climate change.[298] In addition, US supported global nuclear cooperation and Global Nuclear Energy Partnership were developed during this period, in order to build comprehensive energy dialog and to obtain energy growth.[299] According to this partnership, "The Global Nuclear Energy Partnership (GNEP) is a comprehensive strategy to increase U.S. and global energy security, encourage clean development around the world, reduce the risk of nuclear proliferation, and improve the environment."[300]

In addition to GNEP, US motivations behind climate change policies expanded under several energy policy targets. For instance, US Department of Energy in Fiscal Year 2006 estimated 65.3 million dollars for the Nuclear Power 2010 Initiative and 54.5 million dollars for Generation IV nuclear developments.[301]

Also, Obama took several important steps, participating in international climate change. Driesen states that the Obama Administration took a different role on US limited participation to climate change policies. The Obama Administration and US position had changed and the domestic policies of Obama on climate change were directed by energy policies regarding usage of fossil-fuels, energy efficiency and renewable energy.[302]

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[298] "Energy for America's Future," The White House, https://georgewbush-whitehouse.archives.gov/infocus/energy/, (accessed on 10 June 2017)

[299] "The Global Nuclear Energy Partnership," Department of Energy, https://www.energy.gov/sites/prod/files/edg/media/GNEPfactsheet.pdf, (27 September 2017)

[300] "The Global Nuclear Energy Partnership," Department of Energy, https://www.energy.gov/sites/prod/files/edg/media/GNEPfactsheet.pdf, (27 September 2017)

[301] John Byrnea, Kristen Hughes, Wilson Rickerson and Lado Kurdgelashvi, "American Policy Conflict in the Greenhouse: Divergent Trends in Federal, Regional, State, and Local Green Energy and Climate Change Policy," in *Energy Policy* 35, (2007), p. 4557.

[302] Driesen, "Introduction," p. ix.

In this framework, The Environmental Protection Agency (EPA) provided policies to Federal Government to decrease GHG emission by 40% from 2008 to 2025 and EPA supported policies to use renewable energy sources.[303] Accordingly, The Energy Independence and Security Act 2007 was enacted in order to enhance Corporate Average Fuel Economy (CAFE) standards. The Act provided new sources of basic renewable energy and promoted the usage of ethanol and biofuels.[304] Also, the action broadened the attempts by new trends in energy-efficiency and usage of biofuels.[305]

Moreover, one of the major steps before the Paris Agreement during the Obama Administration was "The President's Climate Action Plan" which was adopted in 2013 and highlighted emission reduction on a global scale.[306] The Climate Action Plan was initiated by three main components, namely, cutting carbon pollution, taking precautions for the effects of climate change and participating in global efforts of climate change regime.[307] The targets of the Plan initiated several points in mitigation targets in terms of renewable energy in electricity, energy efficiency, an improvement of standards in energy economy and a general reduction of GHG emissions.[308] Briefly, the Plan illustrated GHG pollution standards and targeted new national policies on energy by generating electricity from wind, geothermal and solar sources, while highlighting emission reductions from hydrofluorocarbons (HFCs)

[303] Miranda A. Schreurs, "The Paris Climate Agreement and the Three Largest Emitters: China, the United States, and the European Union," in *Politics and Governance* 4, no. 3, (2016), 219-223, p. 221.

[304] Selin and Vandeveer, "US Climate Change Politics and Policymaking," p. 126.

[305] Selin and Vandeveer, "US Climate Change Politics and Policymaking," p. 126.

[306] "Sixth National Communication of the United States of America" UNFCCC, p. 162, http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/2014_u.s._climate_action_report[1]rev.pdf, (accessed on 10 February 2018)

[307] "US Climate Change Policy," p. 17.

[308] "US Climate Change Policy," p. 17.

and methane (CH4) for the first time in US climate change history.[309] In parallel, the plan investigated that US was on route to achieve the goal of 2020 by a reduction of 17% of GHG emissions between the years of 2005 and 2020. The calculations were estimated in the First Biennial Report of United States and in accordance with this report, GHG emissions declined 6.5% from 2005 levels to 2011.[310]

Furthermore, one of the commitments to climate change policy was to induce the shaping of new external relations for US with the focus on China. China and US shared the same vision on cutting GHG missions.[311] US-China Joint Program was a critical point in the building of relations and sustainable cooperative policies, since the two greatest emitters were jointly accountable. During the Joint Program, US position on taking initiatives by creating cooperation among other nations can be clearly seen. Specifically to this argument, Obama and President Xi Jinping declared their expanded targets on tackling climate change and US intended to reduce its GHG emissions by 28% from the baseline year of 2005 to the targeted year of 2025 under this Joint Programme.[312]

Additionally, it can be seen that China also took several measures to cooperate with White House's policies. Respectively, China aimed to achieve 20% of emission reduction from 2005 to 2030.[313] Besides, the two powers enhanced their policy

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[309] "Sixth National Communication of the United States of America" UNFCCC, p. 96, http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/2014_u.s._climate_action_report[1]rev.pdf, (accessed on 10 February 2018)

[310]"First Biennial Report Of The United States Of America," U.S. Department of State, report, p. 8-9, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/first_u.s._biennial_report_rev.pdf, (accessed on 10 May 2017)

[311] For further please see *Chapter IV: China.*

[312] "U.S.-China Joint Announcement on Climate Change," The White House Office of the Press Secretary, (12 November 2017), https://obamawhitehouse.archives.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change, (accessed on 4 April 2017)

[313] "U.S.-China Joint Announcement on Climate Change."

dialogue by enacting several clean-energy and technology transfer in order to create a strength strategy for future targets on climate change, such as the establishment of US- China Climate Change Working Group (CCWG), the U.S.-China Clean Energy Research Center and the U.S.-China Strategic and Economic Dialogue.[314] These are the main drivers of mid policies before the Paris Agreement. The next section will illustrate the COP process of US which was the map for the Paris Agreement.

5.3.5. COP before the Paris Agreement and US

Before the Paris negotiations opened on COP21, in accordance with the negotiations in COP16 in Cancun, the statement of US mentioned climate assistance with the establishment of the Green Fund and the need of transparent cooperation and collective efforts.[315] Thus, by referring US Cancun pledge, US committed to decrease GHG emissions by 17% from 2005 to 2020 and the Emission Gap Report 2017 stated that US was on track of fulfil its commitments until mid-2015. However, the same report also identifies that current policy changes may affect the success of this pledge to be fulfilled by 2020.[316]

The strategies of US in COP16 were reflected in COP17 in 2011 and US reiterated the points in the necessary steps of setting up the Green Climate Fund. Therefore, according to Todd Stern's speech during the negotiations, US committed to invest 5.1 billion Dollars. However, he also highlighted the lack of linkage to be part of the commitments in line with Kyoto.[317]

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[314] "U.S.-China Joint Announcement on Climate Change."

[315] "COP16 Plenary Statement of U.S. Special Envoy for Climate Change Todd Stern," UNFCCC, speech, https://unfccc.int/files/meetings/cop_16/statements/application/pdf/101209_cop16_hls_usa.pdf, (accessed on 4 June 2018)

[316] "The Emission Gap Report 2017," p. 9.

[317] "U.S. Statement at COP17," U.S. Department of State – Todd Stern, speech, https://2009-2017.state.gov/e/oes/rls/remarks/2011/178458.htm, (accessed on 5 June 2018)

US later highlighted in COP20 two significant policies; cooperation with China and financial support to developing countries as specified in its statement during negotiations. Additionally, according to US statement, US declared their policy to reduce GHG emissions by 17% for post 2020 targets in line with the joint agreement made with China. Also, US stated that they had contributed 3 billion Dollars to the Green Climate Fund. [318]

Before the Paris Agreement, US presented their INDC in accordance with COP20. According to the INDC report of US, it repeated its commitment to the reduction of emission levels from 26% to 28% from 2005 to 2025.[319] In this regard, these are the policies that US followed during the Paris road map. The next section will analyse US' policies after the Paris Agreement.

5.4. Climate Change Policies of US after the Paris Agreement

After clarifying US climate change policies, this section will explore the main motivations of US in climate change policies after the Paris Agreement. One of the arguments after the Paris Agreement in relation to US participation, is climate financing because US is still one of the greatest economies in the world. Thus, US participation to Paris financing provides a huge financial contribution for developing countries to achieve their targets.[320] Additionally, US made a significant contribution

[318] "Plenary Remarks at COP 20," UNFCCC, (2014), https://unfccc.int/files/meetings/lima_dec_2014/statements/application/pdf/cop20_hls_united_states_america.pdf, (accessed on 7 June 2018)

[319] "US Cover Note INDC and Accompanying Information," UNFCCC, http://www4.unfccc.int/Submissions/INDC/Published%20Documents/United%20States%20of%20America/1/U.S.%20Cover%20Note%20INDC%20and%20Accompanying%20Information.pdf, (accessed on 20 May 2017)

[320] Urpelainen and Graaf, "United States non-cooperation and the Paris agreement," p. 5

to global climate funding with 9.6 Billion Dollars between 2011 and 2012.[321] Accordingly, US provided 2.7 billion dollars for the years of 2013 and 2014 and promised to provide a further 3 billion Dollars to the Green Climate Fund within the framework of UNFCCC. However, the Trump Administration proposed terminating funding to UNFCCC.[322] These processes are backward steps for climate regime, since US financial contributions support developing countries to change their actions to alternative solutions because US pledged to provide financial aid to developing countries in 2009 at the Copenhagen Climate Conference.[323]

In line with bilateral cooperation between US and China, which was mentioned previously, this relationship was further extended after the Paris Agreement. This argument can be shown in the President Xi Jinping's visit to US after the Paris Agreement. Washington and Beijing shared the same understanding on the establishment of long term mitigation goals through a low carbon economy, the importance of assisting developing countries and a 2°C emission reduction target during the Obama Administration.[324] However, China, in contrast to the Trump Administration, participated to the Paris Agreement and its involvement can be seen in further statements "Work Together to Build a Community of Shared Future for Mankind" in January 2017, which defined the Paris Agreement as a milestone for climate change policies and also initiated China's continuation in the Agreement.[325]

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[321] Hai Bin Zhang, Han Xia Lai, Han Cheng Dai and Wen Tao Wang, "U.S. withdrawal from the Paris Agreement: Reasons, impacts, and China's response," in Advances in Climate Change Research 8, (2017), 220-225, p. 222.

[322] Urpelainen and Graaf, "United States non-cooperation and the Paris agreement," p. 5.

[323] Zhang, Dai, Lai and Wang, "U.S. withdrawal from the Paris Agreement: Reasons, impacts, and China's response," p. 223.

[324] "The United States and China Issue Joint Presidential Statement on Climate Change with New Domestic Policy Commitments and a Common Vision for an Ambitious Global Climate Agreement in Paris," The White House Office of the Press Secretary, (September 25, 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/09/25/fact-sheet-united-states-and-china-issue-joint-presidential-statement, (accessed on 31 April 2017)

[325] Zhang, Dai, Lai and Wang, "U.S. withdrawal from the Paris Agreement: Reasons, impacts, and China's response," p. 224

The Clean Power Plan was introduced as a means to limit emissions to at least 32% of GHG by the year 2030, which was equal to 870 million tons of CO2.[326] Additionally, the Clean Power Plan manifests the greatest portion of US policies by having further comprehensive future plans on climate change reduction goals. The expected achievement from the Plan was to lower emission by 17%, spanning the years 2005 until 2020. The target was to reduce the total from 26% to 28% by 2025.[327] In addition, U.S Energy Information Administration, put the target regarding the Plan, in relation to the power sector, ranging from 1,553 to 1,725 million metric tons by 2030, which estimated a reduction of between 29% and 36%.[328] Thus, the important decisions under this plan included the cutting of emission reduction targets by 2025 in fuel related emissions, providing energy efficiency standards between 2009 and 2011 and new emission reduction standards for methane emissions which cost approximately 19-33 million metric tons of emissions.[329] Therefore, Schreurs mentions that the Clean Power Plan Policy is the most crucial domestic strategy for the Obama Administration's climate change policies because of comprehensive targets.[330]

However, the Clean Power Plan was revised by President Donald Trump in March 2017 by "Energy Independence Policy Executive Order" which changed the route of

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[326]"Second Biennial Report of the United States of America," U.S. Department of State, p. 15, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/2016_second_biennial_report_of_the_united_states_.pdf, (accessed on 10 2017)

[327] "President Obama to Announce Historic Carbon Pollution Standards for Power Plants," The White House Office of the Press Secretary, (3 August 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/08/03/fact-sheet-president-obama-announce-historic-carbon-pollution-standards, (accessed on 31 April 2017)

[328] "Analysis of the Impacts of the Clean Power Plan," U.S. Energy Information Administration, p. 14, https://www.eia.gov/analysis/requests/powerplants/cleanplan/pdf/powerplant.pdf, (accessed on 4 April 2017)

[329] "US Climate Change Policy," p. 13.

[330] Schreurs, "The Paris Climate Agreement and the Three Largest Emitters: China, the United States, and the European Union," p. 221.

US policies.[331] In Trump's first attempts following his succession to the presidency, US policies were alternated in line with his growth strategies. He anticipated that the Clean Power Plan would lead to a cut in production of approximately 242 million tons.[332] Furthermore, his position on the Energy Independence Policy demonstrated a reversal of cooperation and neo-liberal policies on climate change. Referring to his speech on recent energy strategies specifying the Energy Independence Policy, he stated, "I am going to lift the restrictions on American energy, and allow this wealth to pour into our communities".[333] Therefore, his policies based on preventing any types of restrictions and regulations which could interfere with US growth strategies and his elimination of the previous Clean Power Plan can be seen clearly.

Even though US had several policy aims during the negotiations during the Paris Agreement, the White House position had changed after the policies of Donald Trump had been put forward. Briefly, it should be noted that as a party to the UNFCCC, Washington just before the Paris Agreement released its INDC which demonstrated its participation in reducing GHG emissions. The estimations demonstrate that the achievement of US INDC targets, which was mentioned above, by 26% to 28% from 2005 to 2025 are highly unlikely. According to the strategies of the Trump administration, he abstained from any additional efforts to combat climate change.[334] Besides, additional targets would be unrealistic while considering Donald Trump's withdrawal from the Paris Agreement. According to President Trump's speech, "As President, I can put no other consideration before the wellbeing of

[331] "President Trump's Energy Independence Policy," The White House Office of the Press Secretary, https://www.whitehouse.gov/the-press-office/2017/03/28/president-trumps-energy-independence-policy, (accessed on 31 April 2017)

[332] "President Trump's Energy Independence Policy."

[333] "President Trump's Energy Independence Policy."

[334] "USA," Climate Action Tracker, http://climateactiontracker.org/countries/usa/, (accessed on 27 January 2018)

American citizens. The Paris Climate Accord is simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries, leaving American workers…"[335]. In light of the fluidity of these events, is foreseen that US domestic climate policies will be very limited. From these analyses, US future mitigation targets will reflect its policy priorities in energy, economy, the environment; US is not forecast to take a proactive role in climate regime.

5.5. Mitigation Targets of US

As mentioned in the Second Biennial Report of US, several policies were aimed at 2020. One of the components is using renewable energy to tackle climate change. According to 2014 policy on renewable energy, federal government supported several studies to develop renewable energy, and Production Tax Credit and Investment Tax Credit.[336]

In addition to the above target on renewable energy, future prospects demonstrate that US should implement the Clean Power Plan to achieve its NDC commitments which are a 26% reduction of 2005 levels. However, the Trump Administration reversed its position on the Clean Power Plan, as well as, international climate change programs as seen in the withdrawal from the Paris Agreement.[337] It is noted that the Clean Power Plan also ensures federal and state cooperation to climate

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[335] "Statement by President Trump on the Paris Climate Accord," The White House, https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/, (accessed on 27 January 2018)

[336] "Second Biennial Report of the United States of America," U.S. Department of State, report, p. 18, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/2016_second_biennial_report_of_the_united_states_.pdf, (accessed on 10 May 2017)

[337] Alina Averchenkova, Samuela Bassi, Keith Benes, Fergus Green, Augustin Lagarde, Isabella Neuweg and Georg Zachmann, "Climate Change Policy in China, the European Union and the United states: main drivers and prospects for the future," in *Centre for Climate Change Economics and Policy*, (2016), p.65.

policies. In order to achieve 2030 goals, states act cooperatively and submit their plans for development; therefore, mid targets are aimed at 2022 and final goals by 2030.[338] However, as mentioned earlier, this Plan was revised by the Trump Administration and future targets in line with this policy appear unrealistic.

5.6. US and Future Climate Change Policy Projections

In consideration of mitigation targets of US, it is projected in 6th National Communication of U.S. that within the given standards of the economy, GHG emissions will be 5.3% less than the base year of 2005 to 2020. However, the report also mentions that emissions will increase from 2011 to 2020.[339]

In the First Biennial Report two major projections were mentioned. Firstly, the Current Measures Scenario, which was a product of the Climate Action Plan in order to route existing initiatives with historical measures as these estimations are shown in Table 4, below.[340] These calculations in reference to historical GHG emissions and future projected scenarios, highlighted that US will take an upward trend by 2030. These estimations are shown in Table 4.

[338] "Second Biennial Report of the United States of America," U.S. Department of State, report, p. 16, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/2016_second_biennial_report_of_the_united_states_.pdf, (accessed on 10 May 2017)

[339] "Sixth National Communication of the United States of America," UNFCCC, p. 135, http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/2014_u.s._climate_action_report[1]rev.pdf, (accessed on 10 January 2018)

[340] "First Biennial Report of The United States of America," U.S. Department of State, p. 18, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/first_u.s._biennial_report_rev.pdf, (accessed on 10 may 2017)

Table 4: Historical and Projected U.S. Greenhouse Gas Emissions Baseline By Sector, 1990-2030.

Sectors[b]		Historical GHG Emissions[a]				Projected GHG Emissions			
		2000	2005	2010	2011	2015	2020	2025	2030
Energy		4,258	4,321	4,104	3,981	3,936	4,038	4,141	4,207
Transportation		1,861	1,931	1,786	1,765	1,710	1,702	1,660	1,627
Industrial Processes		357	335	308	331	378	438	504	536
Agriculture		432	446	462	461	461	485	498	512
Forestry and Land Use		31	25	20	37	30	27	40	35
Waste		136	137	131	128	127	126	125	123
Total Gross Emissions		**7,076**	**7,195**	**6,812**	**6,702**	**6,643**	**6,815**	**6,967**	**7,041**
Forestry and Land Use (Sinks)[c]	high sequestration	-682	-998	-889	-905	-884	-898	-917	-937
	low sequestration					-787	-614	-573	-565
Total Net Emissions	**high sequestration**	**6,395**	**6,197**	**5,923**	**5,797**	**5,759**	**5,918**	**6,050**	**6,104**
	low sequestration					**5,856**	**6,201**	**6,394**	**6,476**

Source: "First Biennial Report of The United States of America," U.S. Department of State, p. 18, https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/first_u.s._biennial_report_rev.pdf, (accessed on 10 may 2017)

Moreover, the second projection which was mentioned in the First Biennial Report is the Additional Measures scenario, which included the future trends of the country through consideration of the Climate Action Plan and 2012 Policy Baseline by 2020.[341] In accordance with the plan, a 17% emission reduction by 2020 and the 22%-27% emission reduction by 2025 from 2005, has been taken into consideration as a map. [342]

5.7. Conclusion

To conclude, this chapter illustrated the domestic priorities and external relations of US in line with climate change regime. The policies of US are crucial because it is one of the major GHG emitters and has the ability to change the policies of climate regime in terms of bearing responsibilities on policy options and actions, specifically

[341] "First Biennial Report of The United States of America," p. 15.

[342] "Second Biennial Report of the United States of America," p. 36.

after the Paris Agreement with the withdrawal of the Trump Administration from the Agreement. It is evident that US has to deal with the lack of compensation policies with its counterparts in climate change policies, since developing countries have limited engagement and US acted in line with the "business as usual diplomacy" on climate regime. After the Trump Administration, US' role has changed dramatically and it is forecast that US will be against certain restrictions and regulations under the Paris Agreement. The next chapter will analyse Turkey's evaluation of priorities in climate change regime.

CHAPTER 6

TURKEY

6.1. Introduction

In this chapter, Turkey's participation and relation with other major players on climate change policies before and after the Paris Agreement, including future targets and projections will be evaluated. It is expected to show that Turkey engages in climate regime when its domestic growth strategies do not contradict with global mitigation targets; Turkey engages the Paris Agreement with regard to its "catching up growth strategies'' as a developing country.

6.2. Structure of Turkey on Climate Change

Starting with the climate structure of Turkey, Turkey is situated in the Mediterranean macro-climate zone with long summer seasons and particular water resource issues. Turkey has different temperatures and distinct temperatures of seasons, with long winters and dry summers.[343] Markandya states that developing countries are vulnerable to the effects of climate change because of the location of these countries, which are mostly in low and mid latitudes. However, developing countries have limited participation to emission reduction because of development concerns which developed countries have already realised.[344]

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[343] Hasan Bayram and Ayşe Bilge Öztürk, "Global Climate Change, Desertification, and Its Consequences in Turkey and the Middle East," in *Global Climate Change and Public Health*, ed. Kent Pinkerton and William Rom (New York: Humana Press, 2014), p. 294.

[344] Anil Markandya, "Involving Developing Countries in Global Climate Policies," in *Climate Change Policies: Global Challenges and Future Prospects*, ed. Emilio Cerda and Xavier Labandeira (Cheltam: Edward Elgar Publishing Limited, 2010), p. 187.

In regard to Turkey's general climate structure, the estimations on climate change trends illustrate that Turkey is a part of an international community with considerable changes to its temperature. In order to explain the mean temperature and precipitation trends in Turkey, it is seen that there is an upward trend in temperature, and the latest average temperature is estimated at 13.90 °C between 2007 and 2016. However, before the expansion of industry, the same data showed that the average temperature was 12.70 °C between 1970 and 1978.[345]

According to latest submission of the National Communication of Turkey, its GHG emissions are estimated in 2013 at "…459.10 m ton of carbon dioxide equivalent. In addition, 67.8% of the total emission is caused by energy, 15.7% is caused by industrial processes and product use, 10.8% is caused by agriculture sector and 5.7% is caused by waste sector."[346] Also, the biggest share of GHG emissions are in the energy and industrial sectors. Thus, the total GHG emission from industry is estimated at 15.7% with 72.03 metric ton gases and in comparison with 1990, 131.8% increase in emissions can be identified.[347] Additionally, in a broader prospective, Turkey's GHG emissions are also demonstrated in Appendix C. In accordance to Appendix C, Turkey's CO2 emissions in contrast to Germany and US data is in steady growth. Therefore, CO2 emissions were estimated to 148,194.8 kt CO2 in the base year 1990. Later, CO2 levels had increased to 227,178.6 kt CO2 in 2000, and 383,426.7 kt CO2 in 2015.[348] From these evaluations, the next section will

[345] "Türkiye Sıcaklık Analizi" Meteoroloji Genel Müdürlüğü, https://www.mgm.gov.tr/FILES/resmi-istatistikler/Turkiye-Ortalama-Sicaklik.pdf, (accessed on 7 April 2017)

[346] "Sixth National Communication of Turkey," Republic of Turkey Ministry of Environment and Urbanization, report (Ankara: AFS Medya, 2016), p. 17, https://unfccc.int/files/national_reports/non-annex_i_natcom/application/pdf/6_bildirim_eng_11_reducedfilesize.pdf , (accessed on 5 June, 2017)

[347] "Sixth National Communication of Turkey," Republic of Turkey Ministry of Environment and Urbanization, report (Ankara: AFS Medya, 2016), p. 18, https://unfccc.int/files/national_reports/non-annex_i_natcom/application/pdf/6_bildirim_eng_11_reducedfilesize.pdf , (accessed on June 5, 2017)

[348] "GHG Profiles – Annex I / Turkey," UNFCCC, http://di.unfccc.int/ghg_profile_annex1, (accessed on 17 December 2018)

explore the policies of Turkey before the Paris Agreement in order to understand the main motivations during the early and mid-period of climate change policies.

6.3. Climate Change Policies of Turkey before the Paris Agreement

6.3.1. Turkey's Early Climate Change Policies

From the information above, in line with Turkey's climate structure, it is seen that Turkey's national policy on climate change started in 1960s. The first recorded improvement is "The First Five Year Development Plan" which included development policies within the period from 1963 to 1967 by considering economic and social costs of the environment in democratic equal measures.[349] Although the First Five Year Development Plan is not completely related with the climate change policies of Turkey, it is seen that it routed the ways for a technical basis of expansion in the economy, in consideration of international sustainable environmental policies. For instance, the Plan targeted on a 7% increase in GDP in consideration of effective usage of natural resources.[350]

It can be observed that Turkey is a late contributor to climate change policies, even though it's national polices started in 1960s, as mentioned above. Furthermore, a consensus on global cooperation behind climate change policies stems from three basic misunderstandings according to Levy et al., which lack the capacity to burden climate change as a nation state, lessen concerns of the problem and the collective action struggle. Additionally, the author states that sufficient institutions may help to

[349] "Türkiye Birinci Beş Yıllık Kalkınma Planı," Kalkınma Bakanlığı, report (1963), p. 1-3, http://www.kalkinma.gov.tr/Lists/Kalknma%20Planlar/Attachments/9/plan1.pdf, (accessed on 11 March 2017)

[350] "Türkiye Birinci Beş Yıllık Kalkınma Planı," Kalkınma Bakanlığı, report (1963), p. 37, http://www.kalkinma.gov.tr/Lists/Kalknma%20Planlar/Attachments/9/plan1.pdf, (accessed on 11 March 2017)

diminish the obstacles behind environmental cooperation.[351] Also, Turkey was sceptical about participation in climate change regime from 1985 to 1988 and entailed a "wait and see policy" because of the concerns of developing countries' policy obligations in climate regime.[352]

From Mazlum's point of view, regimes can define environmental policy options and Turkey engages in environmental regimes. These options lead to changes in national policies and interests. On the other hand, Mazlum also believes that national interests and policies are formulated by international institutions.[353] Turkey's participation into international environmental institutions parallels with its domestic policy. In addition, Turkey has been engaged in international environmental discussions since 1972 participating in the UN Conference on the Human Environment (Stockholm Conference) and Turkey made several commitments in order to design national strategy on protection and management of the environment.[354]

Corresponding to the Stockholm Conference, Turkey had a considerable improvement on building environmental policies in line with the outcomes of the Conference starting with the 1982 Constitution that admits rights of citizens to live in in cohesion with nature and the environment.[355] The constitution also paved the way for additional goals of Turkey. Indeed, the Environmental Act was accepted in 1983 which induced new regulations, commitments, as well as, funds in relation to better

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[351] Marc Levy, Robert Keohane and Peter Haas, "The Effectiveness of International Environmental Institutions," in *Institutions for the Earth*, ed. Marc Levy, Robert Keohane and Peter Haas (Cambridge: The MIT Press, 2001), p. 14.

[352] Mazlum, "Turkey's Foreign Policy on Global Atmospheric Commons," p. 70.

[353] Mazlum, "Turkey's Foreign Policy on Global Atmospheric Commons," p. 69.

[354] "T.C. Resmi Gazete," T.C. Başbakanlık, (25 January 1993), Vol 21476, p. 4, http://www.resmigazete.gov.tr/arsiv/21476.pdf (accessed on 14 January 2018)

[355] "National Environmental Action Plan of Turkey," p. 1.

environmental conditions.[356] The Act also critically highlighted the "polluter pays" principle which demonstrated the responsibilities of polluters to reduce the costs of pollution.[357]

After this period, because of the needs in parallel with economic growth and development policies, in the first attempt, the Sixth Five Year Development Plan included climate change to the literature of Turkey by giving synthesis on environmental degradation and cooperation into its principles and strategies. The plan paved the way for the basis of climate change policies, by explaining economic growth together with environmental standards, as well as, cooperation with other institutions.[358] The plan highlighted that the Coordination Board on Climate Change and Air Management had been established to target several climate policies. According to the Plan, this board, "…ensures taking necessary measures for fight against climate change and prevention of air pollution and coordinating studies for determination of appropriate internal and foreign policies by also considering the circumstances of our country on this regard".[359]

Considering the facts above, the National Environmental Action Plan (NEAP) was built in 1999 to reshape the needs of a healthy social environment by combining growth of the economy. Additionally, to this point, NEAP addressed the different scopes of policy priorities of Turkey by combining development and the environment.[360] Therefore, NEAP demonstrated an important step for extending Turkey's climate change policies, as well as, Turkey's relations with its counterparts

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[356] "National Environmental Action Plan of Turkey," p. 1.

[357] "T.C. Resmi Gazete," T.C. Başbakanlık, (25 January 1993), Vol 21476, p. 4, http://www.resmigazete.gov.tr/arsiv/21476.pdf (accessed on 14 January 2018)

[358] "Turkey Sixth National Communication of Turkey," p. 98.

[359] "Turkey Sixth National Communication of Turkey," p. 19.

[360] "National Environmental Action Plan of Turkey," p. 4.

in international environmental regime, giving reasonable strategies on global cooperation as the strategy report indicated safeguarding the coordination of "development and implementation" among related organisations.[361] NEAP was not only an action plan, but also a process for Turkey's environmental policies since it was constructed by reforming environmental objectives in consideration of decreasing pollution, managing sustainable sources, reducing environmental vulnerability with an additional design of improving the economy and its capability.[362] Another point of NEAP, is that it was a part of future international commitment of Turkey on the environment because it opened the door for reformation environment into the development plans, with an intention to be used for a 20 year of period.[363] Turkey's participation to UNFCCC followed and played a great role in its position in international policies, which will be analysed in the following section.

6.3.2. Turkey's Participation to UNFCCC

Furthermore, Turkey's participation to UNFCCC demonstrates its climate change policy priorities and its relations with other major players. Turkey, as an emerging economy, did not endorse UNFCCC and took the opposite stance to the convention until 2004. After its position modified to Annex II countries, the situation had changed and Turkey ratified UNFCCC in 2004 and the Kyoto Protocol in 2009.[364] Turkey as a member of OECD was accounted into both Annex-I and Annex-II in contrast to other countries. It should be noted that Turkey did not burden the obligations of both categories because of the huge responsibilities presented in

[361] "National Environmental Action Plan of Turkey," p. 85.

[362] "National Environmental Action Plan of Turkey," p. 6.

[363] "National Environmental Action Plan of Turkey," p. x.

[364] Ethemcan Turhan, Semra Cerit Mazlum, et al., "Beyond Special Circumstances: Climate Change Policy in Turkey 1992–2015," *Wiley Interdisciplinary Reviews: Climate Change* 7, no. 3, ed. Karin Backstrand and Mike Hulme (2016), p. 449.

Annex-I countries on reducing GHG emissions. Furthermore, Turkey was not categorized as a non-Annex I country.[365] Also, Turkey did not take mitigation targets until 2004 because of its special development circumstances as explained in the Convention report. In addition, after the decision to accept Turkey's special circumstances, by naming it in Annex-I countries through comprehending its unique position by having limited initiatives in 2002, the Convention was adopted by Turkey in 2004.[366] In line with mitigation targets under UNFCCC process, Turkey committed to a 21% decrease in GHG reductions as mentioned in Figure 2.[367] In addition, in accordance with Figure 2, if Turkey continues with the "business as usual scenario", total CO2 emissions will increase by 1,175 million tons of CO2. However, with mitigation targets, this estimation is projected to be 929 million tons of CO2. [368]

[365] "United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol," Republic of Turkey Ministry of Foreign Affairs, http://www.mfa.gov.tr/united-nations-framework-convention-on-climate-change-_unfccc_-and-the-kyoto-protocol.en.mfa (accessed on 15 April 2017)

[366] "United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol," Republic of Turkey Ministry of Foreign Affairs, http://www.mfa.gov.tr/united-nations-framework-convention-on-climate-change-_unfccc_-and-the-kyoto-protocol.en.mfa (accessed on 15 April 2017).

[367]"Republic of Turkey: Intended Nationally Determined Contribution," UNFCCC, p. 2. http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Turkey/1/The_INDC_of_TURKEY_v.15.19.30.pdf, (accessed on 3 April 2017)

[368] "Republic of Turkey Intended Nationally Determined Contribution," UNFCCC, p. 5, http://www4.unfccc.int/submissions/INDC/Published%20Documents/Turkey/1/The_INDC_of_TURKEY_v.15.19.30.pdf, (accessed on 3 January 2018)

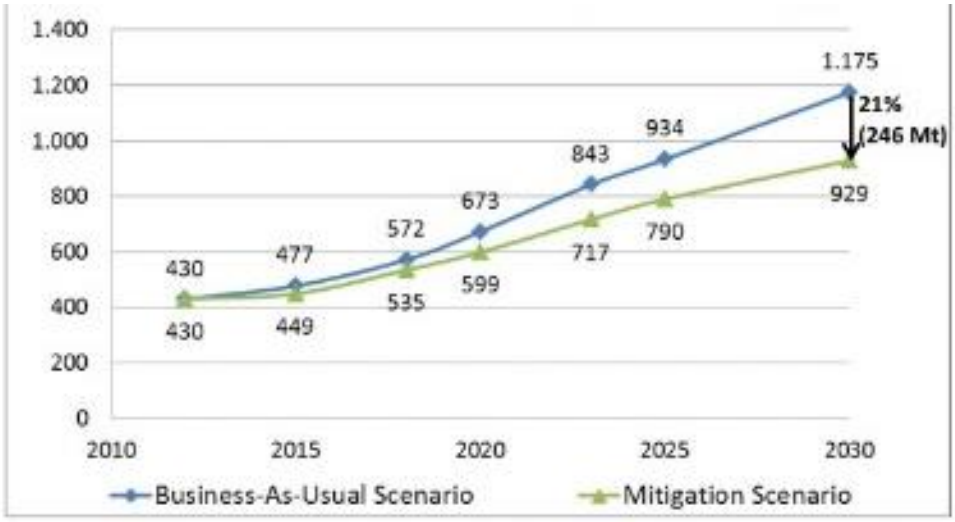

Figure 2: Total Greenhouse Gas Emissions of Turkey (Million Ton CO_2e)

Source: "Republic of Turkey Intended Nationally Determined Contribution," UNFCCC, p. 5, http://www4.unfccc.int/submissions/INDC/Published%20Documents/Turkey/1/The_INDC_of_TURKEY_v.15.19.30.pdf, (accessed on 3 January 2018)

Further commitments made by Turkey, within the UNFCCC process, obligated Turkey to submit its INDC, which covers 2020 and 2030 political strategies.[369] Before the Paris Agreement, INDC of Turkey covered a reduction target of 21% of total emission increases after the Industrial Revolution.[370] In accordance with its INDC, it was estimated that Turkey's GDP had increased 230% from 1990 to 2012. However, total emission were calculated at 440 million tons in total in 2012.[371] It should be noted that, Turkey as a developing country, was responsible for 0.7% of global emissions since the Industrial Revolution.[372] In addition, Turkey as indicated in its INDC, had finance and technology transfer pressures, while tackling climate

[369] "Republic of Turkey: Intended Nationally Determined Contribution," p. 2.

[370] "Republic of Turkey: Intended Nationally Determined Contribution," p. 2.

[371] "Republic of Turkey: Intended Nationally Determined Contribution," p. 1.

[372] "Republic of Turkey: Intended Nationally Determined Contribution," p. 2.

change.[373] Also, Turkey's INDC mentions GHG emission reduction covers a 21% decrease between the years of 2021 and 2030.[374]

6.3.3. Turkey and Kyoto Process

After the UNFCCC process, another major but controversial step while explaining why climate change policies reflect Turkey's policy priorities, is its opposition to the Kyoto Protocol. In COP3, when the Kyoto Protocol was adopted, Turkey was not a party to UNFCCC; however, it was listed under Annex-I Countries in the Convention that requires comprehensive emission reduction targets with its special conditions. In addition, Turkey did not take further policies to be part of the Kyoto Protocol between 2008 and 2012, because of its reduction commitments of 8% of GHG emissions.[375] The profile of the economic commitments contradicted with Turkey's growth strategies and development in the economy. In order to clarify, during this period, it is recorded that Turkey faced high inflation rates and challenges regarding its position in international competition in the market from 1996 to 2001. Besides, the economy had grown 5.8% after 2003, with an increase in exports of 2.6 fold more in 2005.[376] Also, Kyoto might cause several policy changes in Turkey in terms of GHG emission commitment with regard to policy targets in the energy sector. It was recorded that between the years of 1990 and 2004, Turkey's demand on energy had increased from 3.7% to 7.2%.[377] For this reason and thanks to ever expanding needs, Turkey did not enhance its international climate change policies under Kyoto. As noted, Annex I countries are obligated to take certain GHG emission reduction

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[373] "Republic of Turkey: Intended Nationally Determined Contribution," p. 2.

[374] "Republic of Turkey: Intended Nationally Determined Contribution," p. 2.

[375] "United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol"

[376] "First National Communication of Turkey on Climate Change," Republic of Turkey Ministry of Environment and Forestry (Ankara: 2007), p. 3. https://unfccc.int/resource/docs/natc/turnc1.pdf, (accessed on 12 April 2017)

[377] "First National Communication of Turkey on Climate Change.", p. 4.

targets, encourage carbon-sinks and reporting measures by leading the Convention. This point can be explained by Turkey's growth policies. As an emerging economy, Turkey was in line with the aim of contributing to common efforts in relation to its capacity.[378] According to the decision on Turkey in COP7, "... delete Turkey's name from the Annex II and to place Turkey among the Annex I countries, taking into account its special circumstances, differentiating it from other Annex I countries...".[379] Because of Turkey's reconsideration of status, and due to fundamental changes by being in Annex I with its special circumstances, Turkey participated in the Protocol of 2004.[380]

6.3.4. Mid Period of Turkey's Climate Change Policies

Moreover, Turkey established several development strategies by expanding its position in international climate change regime in 2000s. It is found that the "Eighth Five Year Development Plan" and "Ninth Five Year Development Plan" were prepared before the Paris Agreement as the key strategies of Turkey to participate in global climate change policies. In this regard, both The Eighth Five Year Development Plan and Ninth Five Year Development Plan highlighted the importance of energy efficiency, industry and global competitiveness of Turkey, while maintaining sustainable climate change policies.[381] However, both plans did not specify certain GHG emission targets and explained only general arrangements.

Accordingly, the estimations demonstrate that commitments to GDP in this period and GHG emissions are in direct proportion. As the Eighth Five Year Development

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[378] Republic of Turkey: Intended Nationally Determined Contribution," p. 1.

[379] "United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol,"

[380] "United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol",

[381] "Turkey 8th Five Year Development Plan," Ministry of Development of Turkey, report (2001), p. 213, http://www.kalkinma.gov.tr/Lists/Kalknma%20Planlar/Attachments/2/Eight%20Five-Year%20Development%20Plan%202001-2005.pdf, (accessed 10 March 2017)

predicted, 6.5% increase in GDP,[382]GDP had grown tremendously and reached a 7.6% annual GDP growth rate in 2005.[383] However, the total GHG emissions were estimated at 297.01 million tons of CO2 in 2000, while this number reached 369.66 million tons of CO2 emissions by 2009.[384] This estimation was increased after the Ninth Five Year Development Plan to 459.1 million tons of CO2 emissions in 2013.[385]

In addition to the facts above, the Tenth National Sustainable Development Plan conceptualised an international view for the climate change policies of Turkey, by considering its capacity within the scope of "common but differentiated" duties. [386] It was highlighted in the strategy that because of variable opportunities and developments, Turkey established several strategies for development responsibilities and global duties. In this framework, according to strategy, Turkey ensures an increase in bilateral relations in its development strategies, and "…to ensure sustainability of development, strengthening mutual economic and commercial cooperation and establishing strategic partnerships, especially with the neighbors and the countries in the region, is of utmost importance."[387]

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[382] "Turkey 8th Five Year Development Plan", p. 36.

[383]"GDP Per Capita Growth of Turkey," The World Bank, https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?end=2005&locations=TR&start=2001&view=chart, (accessed on 5 June 2017)

[384]"Sera Gazı Emisyon Envanteri, 2009," TUİK, 8537-2011, http://www.tuik.gov.tr/PreHaberBultenleri.do?id=8537, (accessed on 23 February 2017)

[385]"Sera Gazı Emisyon Envanteri, 2013," TÜİK, 18744-2015, http://tuik.gov.tr/PreHaberBultenleri.do?id=18744, (accessed on 20 July 2017)

[386] "The Tenth Development Plan," Ministry of Development, report (Ankara: 2014), p. 13, http://www.mod.gov.tr/Lists/RecentPublications/Attachments/75/The%20Tenth%20Development%20Plan%20(2014-2018).pdf, (accessed on 12 April 2017)

[387] "The Tenth Development Plan," Ministry of Development, report (Ankara: 2014), p. 141, http://www.mod.gov.tr/Lists/RecentPublications/Attachments/75/The%20Tenth%20Development%20Plan%20(2014-2018).pdf, (accessed on 12 April 2017)

Another point behind the climate change policies of Turkey, are illustrations of its relations with other major players. One of the crucial points, is Turkey's climate change obligations in line with EU policies, because as an EU Candidate member, Turkey was obligated to build climate change strategies within this mechanism.[388] Mazlum highlights, Turkey's participation outlined by the Western world and its candidacy in EU, causes strong commitments and relations between climate change policies and truths in the economy, contradicts national interests.[389]

In this framework, Turkey took several steps to burden mitigation responsibilities under EU candidacy by "The Long Term Development Strategy on 2001-2023" aimed at reshaping Turkey by sustaining new capacities for social welfare, improved technological infrastructure and a healthy environment. In this regard, the strategy remarkably highlighted that Turkey's candidate membership of EU by explaining the compliance of global norms and standards in order to achieve a healthy environment.[390] By referring the Long Term Development Strategy of 2001-2023, Turkey's global power was initiated by transforming its structure with economic growth through enhancing the income and developing technology without harming environment. Most importantly, the strategy featured membership of EU and cooperation of Turkey with EU norms and standards on topics in relation to social welfare including climate change.[391] Therefore, it can be deduced that, Turkey took several broader steps in terms of harmonisation of its standards within EU.

Moreover, EU Energy Strategy referred the reduction in GHG emissions, effective usage of resources and developing renewable alternatives in energy policy, by not

[388] Şahin, "Türkiyenin İklim Politikalarında Aktör Haritası," p. 9

[389] Mazlum, "Turkey's Foreign Policy on Global Atmospheric Common," p. 69

[390] "Turkey 8th Five Year Development Plan," p. 22.

[391] "Turkey 8th Five Year Development Plan," p. 21-22.

neglecting the facts in international competitiveness and security.[392] In this regard, building a sustainable energy policy of Turkey in cohesion with European Union, played a huge role by contributing to the country's climate change policies by paralleling its energy dialogues. In addition, according to 2016 GHG Emission Inventory Reports of Turkey, total GHG emissions have reached 475,1 million tons (Mt) and the biggest share is energy resources with 71.6%.[393] Thus, further policies and changes in line with climate change policies directly affect the country's energy dialogue, as an EU candidate country. These are the main driver mid policies before the Paris Agreement. The next section will illustrate the COP process which was the map for the Paris Agreement.

6.3.5. COP before the Paris Agreement and Turkey

Before the Paris negotiations in COP21, in line with COP16 in Cancun, Turkey's special circumstances in contrast to other Annex-I countries were highlighted in terms of capacity building and energy transfer.[394] Turkey did not make a pledge in line with the Cancun negotiations. Additionally, according to a statement by Veysel Eroğlu in COP16, the argument on Turkey's special circumstances were mentioned and the duties of developed countries in terms of financial and technology transfer were brought to the fore during negotiations.[395]

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[392] "Energy," Delegation of the European Union to Turkey, https://www.avrupa.info.tr/en/energy-57, (accessed on 20 June 2017)

[393] "Seragazı Emisyon İstatistikleri, 1990-2015," TÜİK, 23588-2017, http://www.tuik.gov.tr/PreHaberBultenleri.do?id=24588, (accessed on 14 June 2017)

[394] "BM İklim Değişikliği Çerçeve Sözleşmesi," MFA, http://www.mfa.gov.tr/bm-iklim-degisikligi-cerceve-sozlesmesi.tr.mfa, (accessed on 3 June 2018)

[395] "Statement by H.E. Prof. Dr. Veysel Eroğlu - Minister of Environment and Forestry, Turkey at the High Level Segment of UNFCCC COP 16," UNFCCC, speech, p. 2, https://unfccc.int/files/meetings/cop_16/statements/application/pdf/101209_cop16_hls_turkey.pdf, (accessed on 4 June 2018)

The developments in Cancun were followed in COP17 in Durban and Turkey's main argument regarding its special circumstances as an Annex I country, the emission reduction goals, capacity building and financial aid were highlighted in Decision 2/CP.17, in Article 170 by discussion, "…on modalities for the provision of support for mitigation, adaptation, technology development and transfer, capacity-building and finance to Parties whose special circumstances are recognized by the Conference of the Parties in order to assist these Parties in the implementation of the Convention".[396] Furthermore, according to a speech made by Cevdet Yılmaz in COP17, the classification of Turkey as a developing country under Annex-I countries by having special circumstances reaffirmed and the needs for technology and finance expectations were repeated.[397]

These discussions reaffirmed in CO18 in Doha, and financial and technical support to Turkey by having special circumstances was evoked.[398] Furthermore, regarding decisions in line with COP20 in Lima, these negotiations were echoed and the need for financial and technical support including Global Environmental Facility (GEF) were highlighted in COP20.[399]

In line with the decision in COP20, agreeing parties were requested to submit their INDCs as mentioned in Chapter 2. Thus, Turkey presents 21% GHG emission

[396] "FCCC/CP/2011/9/Add. 1," UNFCCC, https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf, (accessed on 25 April 2018)

[397] "Statement of H.E. Mr. Cevdet Yılmaz, Minister of Development, Turkey, At High Level Segment of the 17th Session of United Nations Convention on Climate Change-Conference of Parties," UNFCCC, speech, https://unfccc.int/files/meetings/durban_nov_2011/statements/application/pdf/111208_cop17_hls_turkey.pdf, (accessed on 4 June 2018)

[398] "BM İklim Değişikliği Çerçeve Sözleşmesi."

[399] "BM İklim Değişikliği Çerçeve Sözleşmesi."

reduction in line with BAU from the period of 2021 to 2030 as mentioned earlier.[400] Within the scope of Turkey's national situation, the INDC Paper of Turkey presents concerns on limited usage of energy sources, financial and technological constraints.[401] From these concerns, Turkey initiated several strategies specifically in energy. Therefore, Turkey mentioned increasing the capacity of production from solar and wind power, reducing electricity by 15% and the construction of a nuclear power plant by 2030.[402] These are the policies that Turkey followed during the Paris road map. The next section will analyse Turkey's policies after the Paris Agreement.

6.4. Climate Change Policies of Turkey after the Paris Agreement

The Paris Agreement is a milestone for the creation of a new environmental regime covering comprehensive cooperative policies. With the signature of 55 parties in order to achieve 55% reduction in GHG emissions through the Paris Agreement.[403] Turkey is one of the countries which ratified the Agreement on 22 April 2017.[404] The Paris agreement enabled countries to be part of climate regime because countries pledged to determine their carbon reduction targets within their capacities.[405]

Regarding the Paris Agreement, COP22 of "The United Nations Climate Change Conference in Marrakech", Turkey faced several discussions in relation to the green climate fund accessibility under the Paris Agreement. On the other hand, the

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[400] "Republic of Turkey Intended Nationally Determined Contribution," UNFCCC, p. 2, http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Turkey/1/The_INDC_of_TURKEY_v.15.19.30.pdf, (accessed on 3 January 2018)

[401] "Republic of Turkey Intended Nationally Determined Contribution," p. 2.

[402] "Republic of Turkey Intended Nationally Determined Contribution," p. 3,

[403] "Paris Anlaşması," Türkiye Cumhuriyeti Dışişleri Bakanlığı, http://www.mfa.gov.tr/paris-anlasmasi.tr.mfa, (accessed on 3 August 2017)

[404] "Paris Anlaşması."

[405] "Paris Anlaşması."

discussions were not concluded before the Paris Agreement and it led to one of the obstacles for Turkey's participation in the Agreement. During the Paris negotiations, Turkey enacted a supportive position but it was unsuccessful in joining the Green Climate Fund. On the other hand, Ankara had special circumstances by being a developing economy and it was required to increase its capacity in terms of socioeconomic and political initiatives which lied behind climate change regime.[406] Because of this reason, Turkey avoided huge political obligations. In line with the Paris Climate Agreement, Turkey targeted the reduction of GHG emissions by 21% which was mentioned in probable climate scenarios, which equals to 929 million tons from an expected 1,175 billion tons of GHG.[407]

The Paris Agreement is also questionable for Turkey's other priorities in the economy, energy and environment to take more initiatives because of its special circumstances and lack of financial aid. Keohane and Oppenheimer state that if institutions participate in public goods, it is hard to manage reciprocity on climate change issues. In these cases, sometimes several sanctions can be developed, however, these sanctions may damage economic interests.[408] In these cases climate change policies can be expensive because climate regime requires major changes in the economy and triggers shifts in actions such as "higher energy costs, higher taxes, and probably reduced services to citizens".[409] Because of these reasons, emission reduction targets can be harmful for developing countries.

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[406] Turhan, et al., "Beyond Special Circumstances: Climate Change Policy in Turkey 1992–2015," p. 456.

[407] "Republic of Turkey: Intended Nationally Determined Contribution."

[408] Keohane and Oppenheimer, "Paris: Beyond the Climate Dead End through Pledge and Review?," p. 144

[409] Keohane and Oppenheimer, "Paris: Beyond the Climate Dead End through Pledge and Review?," p. 145

To support this argument, Turkey's position was considered as special and included its name in Annex-I as mentioned earlier. However, even though Turkey was considered a developing country, it had limited financial resources by being an OECD member country.[410] In line with green funds, during the Paris Agreement, developed countries were not willing to realise long term financial aid to developing countries. 100 billion dollars was mentioned in the 2012 Doha Negotiations for the Green Climate Fund, however, this number was not achieved. Indeed, the future of the Green Climate Fund remains vague.[411] Turkey, in order to achieve its goals in economic growth, needed to have new environmental financial and technological support as mentioned earlier in the Green Fund Process.[412]

As mentioned in previous chapters, Germany, US and China built several strategies after Trump's withdrawal from the Paris Agreement. In accordance with current developments, it is clear that Turkey's position has changed after the discussions of Donald Trump's policies on withdrawal from the Paris Agreement. After the statement by the White House of getting out of the Agreement, Turkey was less willing to put further steps in place on taking initiatives regarding global climate change. According to the Turkish President, Recep Tayyip Erdogan, "Therefore, after this step taken by the United States, our position steers a course towards not passing this from the parliament".[413] As Putnam mentions in the Two Level Game

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[410] Karakaya, "Paris İklimAnlaşması: İçeriği ve Türkiye Üzerine Bir Değerlendirme," p. 7.

[411] Hong-Yuan Yu and Song-Li Zhu, "Toward Paris: China and Climate Change Negotiations," p. 59.

[412] Green Climate Fund was founded by the UNFCCC member parties, and the fund can be explained by "…a new global fund created to support the efforts of developing countries to respond to the challenge of climate change. GCF helps developing countries limit or reduce their greenhouse gas (GHG) emissions and adapt to climate change. It seeks to promote a paradigm shift to low-emission and climate-resilient development, taking into account the needs of nations that are particularly vulnerable to climate change impacts". On the other hand, the Fund's activities contain Least Developed Countries, Small Island Developing States and African states.

"About the Fund," Green Climate Fund, http://www.greenclimate.fund/who-we-are/about-the-fund, (accessed 21 August 2017)

[413] "Erdogan says U.S. Stance Stalls Turkish Ratification of Paris Climate Deal," Reuters, (8 July 2017), (accessed on 23 July 2017)

Theory, leaders act on their polices within the national interests.[414] After the withdrawal of US from the Paris Agreement, Turkey is less inclined to accept the decisions under the Paris Agreement, as it can be seen in the Turkish President's statement.

Also, there is growing public concern in terms of energy and water shortages in Turkey. Because of this reason, Turkey operates "67 units of coal-fired power plants (emitting 72 MtCO2 a year), six units are under construction and more than 73 units are planned".[415] These power plants will lead to an increase in emissions of about 40%.[416]

In contrast to Turkey's above concerns, the environment is one of the challenging issues for Turkey's accession to EU. Turkey is in the pre-accession process to EU, and since 2002, 6 Billion Euros was provided to Turkey and approximately 1 Billion Euros was allocated for environmental investments.[417]

Additionally, as states participate in the Paris Agreement to enhance reputation as mentioned by Keohane and Oppenheimer in literature review, Turkey may harm its reputation by back tracking from the agreement on international policies and face pressures from civil society. As Turkey insist on debate on access to financial funds,

[414] Robert D. Putham, "Diplomacy and Domestic Politics: The Logic of Two-Level Games" p. 430.

[415] "Turkey," Climate Action Tracker, https://climateactiontracker.org/countries/turkey/ (accessed on 20 July 2018)

[416] "Turkey," Climate Action Tracker, https://climateactiontracker.org/countries/turkey/ (accessed on 20 July 2018)

[417] "Environment and Climate Change: The most important and challenging EU policy areas", European Union, https://www.avrupa.info.tr/en/environment-and-climate-change-most-important-and-challenging-eu-policy-areas-259 (accessed on 20 July 2018)

international regime can isolate Turkey in negotiations because one of the greatest emitters, China, put further steps into action to further reduce GHG emissions.[418]

6.5. Mitigation Targets of Turkey

From this analysis, in relation to future illustrations of Turkey, explorations demonstrate that Turkey's climate change policies will remain as a reflection of its policy priorities. The Climate Change Action Plan was built in order to maintain particular climate change policies from 2011 to 2023. The Plan focuses on energy, industry, building, agriculture and the forestry sectors for future participation in environmental cooperation and principles of Turkey to ensure responsibilities under UNFCCC and to contribute to GHG emission reduction targets.[419] The strategy defines its vision as, "Turkey's national vision within the scope of "climate change" is to become a country fully integrating climate change-related objectives into its development policies, disseminating energy efficiency, increasing the use of clean and renewable energy resources, actively participating in the efforts for tackling climate change within its "special circumstances", and providing its citizens with a high quality of life and welfare with low-carbon intensity"[420]

Moreover, energy related initiatives are in parallel with the future climate change policies of Turkey. The Climate Change Action Plan for 2023 also corresponds with

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[418] Arif Cem Gündoğan, and Semra Cerit Mazlum. "Turkey and Climate Change Talks on the Eve of the Paris Agreement." Heinrich-Böll-Stiftung Türkei.

https://tr.boell.org/de/2015/11/16/turkey-and-climate-change-talks-eve-paris-agreement (accessed on 20 July 2018)

[419] "Republic of Turkey Climate Change Action Plan" Republic of Turkey Ministry of Environment and Urbanization, (Ankara, 2012), p. 9. http://webdosya.csb.gov.tr/db/iklim/editordosya/iklim_degisikligi_eylem_plani_EN_2014.pdf, (accessed on 20 June 2017)

[420] "Republic of Turkey Climate Change Action Plan" Republic of Turkey Ministry of Environment and Urbanization, (Ankara, 2012), p. 9. http://webdosya.csb.gov.tr/db/iklim/editordosya/iklim_degisikligi_eylem_plani_EN_2014.pdf, (accessed on 20 June 2017)

Turkey's EU candidacy. In line with the deductions from previous arguments, as the first years of Turkey's participation into climate change policies were shaped by EU candidacy, the future targets are also in line with its bilateral relations with other institutions. This argument is also corresponding with Turkey's policies. Turkey took several initiatives to parallel its strategies with EU. According to Directive 2012/27/EU of the European Parliament of the Council, "…the European Council of 4 February 2011 emphasized that the 2020 20 % energy efficiency target as agreed by the June 2010 European Council, which is presently not on track, must be delivered."[421] In addition, the reduction in CO2 mitigation corresponds with the energy consumption of EU which is respectively 20% of Turkey's commitments in the 2023 strategy with 21% of GHG emissions as mentioned above.

However, according to the studies of the Ministry of Development, Turkish estimations for the future demonstrates that Ankara should take on board more emission reduction targets to tackle climate change, in order to achieve its target of 21%. It is mentioned that the total GHG emissions will reach 1 billion 130 million tons in 2030 and in 2050 this estimation is projected to be 2 billion 929 million tons.[422]

6.6. Turkey and Future Climate Change Policy Projections

Furthermore, these mitigation targets are in line with future policy projections. National Climate Change Strategy Document of Turkey indicates the basic policies of future prospects on climate change between the years of 2011 and 2023 by considering Turkey's special circumstances in development of social and economic

[421] "Directive 2012/27/EU of the European Parliament and of the Council," Eur-Lex, http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX:32012L0027, (accessed on 14 August 2017)

[422] Şahin, "Türkiye'nin İklim Politikalarında Aktör Haritası," p. 49.

circumstances. To illustrate this point, The National Climate Change Strategy characterises the future cooperative policies of Turkey as;

> "Turkey's primary objective within the scope of global combat against climate change is to participate in the global efforts that are carried out to prevent climate change, which is the common concern of humanity, and that are determined with common mind in cooperation with international parties in the light of objective and scientific findings, without compromising sustainable development efforts, based on the principle of common but differentiated responsibilities and within the framework of the special circumstances of our country."[423]

From this point, it is possible to mention that the strategy focuses on international growth through sharing experiences, multilateral relations and new capacities, without neglecting the country's capacities in climate change emission reduction targets.

Turkey's future initiatives on climate change are also in parallel with its policies in EU accession process. EU has always taken a leading role in climate change policies and EU submitted its intended contribution by targeting a minimum 40% emission reduction.[424] Thus, during the accession to EU, one of the policy conversations that needed to be changed, was climate change policies for Turkey.[425] 1 billion Euros had been offered to help Turkey by EU, in terms of pre-accession financial assistance for environmental concerns since 2012.[426] In parallel with this assistance, 650 million Euros was allocated for the Environmental and Climate Action Programme of 2014 and 2020 for pre-accession parties in order to operate an environmental

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[423] "Republic of Turkey: Climate Change Action Plan," p. 65.

[424]"Paris Agreement," European Commission, https://ec.europa.eu/clima/policies/international/negotiations/paris_en, (accessed on 20 June 2017)

[425] Şahin, "Türkiyenin İklim Politikalarında Aktör Haritası,", p. 9.

[426] "Environment and Climate Change: The Most Important and Challenging EU Policy Areas," Delegation of the European Union to Turkey, http://www.avrupa.info.tr/en/environment-and-climate-change-most-important-and-challenging-eu-policy-areas-259, (accessed on 20 June 2017)

framework.[427] In the accession period of Turkey, it was foreseen that the growth rate of Turkey will be 7% between the years of 2001 and 2012 which will meet the levels of European Union members in 2023.[428]

In light of this information, on the other hand, even the increase will be unavoidable; it is possible to eliminate negative consequences of climate by global mitigation targets. By referring climate models through the model of 1971 and 2000, the temperature will only increase from 1.5 °C to 2 °C for the foreseeable future of Turkey.[429]

6.7. Conclusion

To conclude, this chapter illustrated the domestic priorities and external relations of Turkey in line with climate change regime. It is stated that as a developing country, Turkey considers its growth policies and for this reason its climate change policies are very limited. Even though several discussions were developed by fulfilling the emission reduction targets of the Paris Agreement, Turkey put in place several mitigation targets in line with the Agreement regarding its accession to EU. The next chapter will provide a conclusion on evaluation of each country, respectively Germany, China, US and Turkey, priorities in climate change regime in order to demonstrate how and in which extent their domestic policies reflect into global climate change regime.

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[427] "Environment and Climate Change: The Most Important and Challenging EU Policy Areas."

[428] "Turkey 8th Five Year Development Plan," p. 22.

[429] "Yeni Senaryolarla Türkiye için İklim Değişikliği Projeksiyonları," Türkiye Cumhuriyeti Orman ve Su İşleri Bakanlığı Meteoroloji Genel Müdürlüğü, (2013), p. 34, https://www.mgm.gov.tr/FILES/iklim/IKLIM_DEGISIKLIGI_PROJEKSIYONLARI.pdf, (accessed on 20 June 2017)

CHAPTER 7

CONCLUSION

This thesis seeks to analyse that, even though some scholars categorise climate change policies into cooperative or obstructive strategies, climate change policies of countries reflect the domestic economy, environment and energy priorities of countries and their relations with other major players. From this perspective, distinctive and similar policies of Germany, China, US and Turkey were explored within the scope of international environmental regime.

Climate change affects the whole of humanity through extreme weather, unpredictable natural disasters and related economic activities. These activities paved the way for losses in the economic and social lives of the population. For this reason, the topic of climate change appears at the centre of domestic policies of countries and international relations. However, participation of countries in climate change regime varies in relation to their diverse interests.

The answer to the question of how this climate change regime was constructed is closely related to the definition of international regime, which consists of strategies affected by several norms and principles as mentioned earlier. From this perspective, "the complex interdependence theory" mentioned by Keohane and Nye was explored in this study and it was found after comparison of Germany, China, US and Turkey that states engage in climate change policies through interstate channels such as UNFCCC platform in line with their interests. Also, several outcomes reflected that some industrial countries faced several challenges in finding coherent linkages to be part of climate regime.

In line with the point above, through neo-liberal lenses, participation of countries to climate policies can be seen in their engagements to international agreements, institutions, regime formations and governmental strategies. Within this framework, the second chapter explored the main motivations behind global diplomacy on climate change before analysing the different positions and pledges of Germany, China, US and Turkey in order to map their positions. Thus, in this thesis, the diverse climate change policy motivations of Germany, China, US and Turkey were examined separately in order to discover and analyse their different positions in global diplomacy on climate change, by examining their domestic policies and reciprocal relations within a comparative lenses. In this respect, several outcomes were found while considering these correspondent and contrasting strategies.

Accordingly, the construction of global diplomacy on climate change also triggered the argument behind the North South debate, because the interest of developed countries contradicted the growth of emerging economies in terms of technology transfer and finance. From this point, the different interests and mitigation targets between developed and emerging economies could be seen, with emerging economies' argument on preserving the growth in the economy and technology transfer as the core debate topics in global climate change policies.

One of the main differences between Germany, China, US and Turkey is their participation level in climate regime throughout their climatic history. In this respect, it was indicated that Germany had always been supportive of climate change policies. However, US, China and Turkey had several fluctuations in their policies. It is seen that US is timid in global climate change policies, and abstained from certain emission reduction commitments and binding obligations. US scepticism in both domestic policies and federal structure could be observed. However, US had several policy changes after the Obama Administration and Obama took more cooperative strategies for climate regime as demonstrated in The President's Climate Action Plan which developed and provided a synthesis for 5 years of development of targets. In this respect, even China put several strategies in place to enhance its carbon sink and

capacity and Beijing had limited responsibilities as China depended on cheap production until the beginning of the Paris Agreement. China enacted several targets to enhance its capacity in alternative sources. Also, China developed several five year development plans in line with the Paris Agreement. Similarly, Turkey also had limited participation in international commitments for lack of capacity to burden certain mitigation targets in terms of economic development.

The main differences can be highlighted by distinctive policies of Germany, China, US and Turkey in relation to their national interests. These interests were shaped in Germany by policies in the economy and energy. However, it was noted that, as an EU country, Germany's policies were consistent with EU commitments and Germany reflected institutional behaviour. In contrast, US domestic policies were affected by its domestic polarisation in terms of balancing the Federal system's commitments. Additionally, China and Turkey's national interests were shaped by their economic growth strategies. China differed from Turkey by enhancing renewable alternative sources in recent developments.

Moreover, one of the points presented in this study was the participation of Germany, China, US and Turkey in the UNFCCC because UNFCCC provided an umbrella institution in which countries could raise their arguments and demonstrate their emission reduction targets in order to cooperate with different shared responsibilities. UNFCCC Article 4 provided two important points in climate change regime which were respectively the obligation to submit national targets and the division of responsibilities between developed and developing countries. For this reason, agreed parties' participation varied through their national interests. Germany, as seen in its Action Plan, illustrated policies which were in line with EU commitment in UNFCCC. In contrast to Germany, US was one of the industrialised countries which ratified the UNFCCC, however, it was demonstrated that the Bush Administration was against binding commitments in line with UNFCCC. According to China's involvement in UNFCCC, China was placed under non-Annex-I countries in contrast to Germany and US and because of this reason China enacted limited participation

with voluntary commitments. Turkey's UNFCCC situation was different to that of Germany, US and China, because Turkey did not take on mitigation burdens until 2004 because it was obligated to have more responsibilities as an Annex-I country. Later, as an emerging economy, Turkey was listed under Annex-I countries with special considerations.

Accordingly, Germany and Turkey developed several domestic programmes in line with their UNFCCC commitments. From this point, Germany adapted DAS and Adaptation Action Plan of the Strategy for Adaptation to Climate Change. In both programmes, the need to reduce vulnerability to the causes of climate change and to fulfil Germany's obligations in cooperating with UNFCCC targets were highlighted. Indeed, to parallel growth in the economy and environment, Turkey developed several national Plans to tackle climate change, such as the Five Year Development Plan and NEAP which were constructed to expand climate change policies while combining development and the environment for future international commitments of Turkey

In addition to UNFCCC, Kyoto Protocol's failure showed that global cooperation behind climate change policies could not be achieved unless through common policies parallel with domestic targets. The failure of Kyoto may have been related to the difficulties in combining obligatory and comprehensive regimes. Thus, the different positions of Germany, China, US and Turkey regarding the Kyoto process were provided in this study. Indeed, in contrast to US, China and Turkey, Germany was supportive to Kyoto and broadened its policies accordingly. On the other hand, US position within the scope of Kyoto reflected its position in climate change regime. US was against any kind of obligatory mechanism. It was observed from China's participation to Kyoto, China was also adverse to international commitments until being listed under non-Annex I countries which had limited voluntary commitments. Also, it was deduced that Turkey's position was similar to that of China and that Turkey did not take on the burden of the commitment to Kyoto until 2004 because of the growing needs in the economic and energy sectors.

Climate change policies are related with domestic energy choices of Germany, China, US and Turkey. In this regard, it is seen that Germany's climate change policies were directly related to its policy options in energy and Germany transformed its energy priorities by participating in EU ETS and developing Energiewende. Simultaneously, US abstained from certain emission reduction targets and time agendas. US built alternative coalitions in order to diminish consensus on climate regime as mentioned in the Global Climate Change Coalition and Global Nuclear Energy Partnership. It is seen that both China and Turkey engaged in energy commitments in line with their growth capacities. However, after the Paris Agreement, China developed its energy standards and technologies to support energy-efficiency targets.

Furthermore, the domestic climate change policies of Germany, China, US and Turkey also reflected their relations with other major players. Starting with Turkey, Ankara enhanced its relations with EU in line with global mitigation targets under several national policies, as mentioned in The Long Term Development Strategy on 2001-2023 which provided a policy to enhance growth in the economy and technology transfer arenas on route to EU candidacy.

From these developments, one of the major improvements in climate regime was the cooperation of the two greatest emitters, namely US and China, in climate change policies. From these developments, one of the major improvements in climate regime was the cooperation of the two greatest emitters, namely US and China, in accordance with US-China Joint Programme in which President Obama and Jingping declared common policy by targeting the same emission reduction from 2005 to 2025.However, after Trump's withdrawal from the Paris Agreement, China supported EU policies on certain emission reduction targets as mentioned by China-EU Zero Emission Goal.

Furthermore, the positions of countries were not completely obstructive or cooperative to the Paris Agreement. For instance, the President of Turkey highlighted doubts about the Paris Agreement after the withdrawal of Trump, on the other hand, Turkey put emission reduction targets in The Climate Change Action Plan for 2023 on the road of their EU candidacy. Additionally, national policies under the Paris Agreement were framed as consensus on the so called strategy of keeping temperature rises below 2°C. To achieve this common target, as mentioned in the Paris Agreement Article 4, agreed parties were obligated to submit their INDCs. Therefore, different INDCs were illustrated in this study to demonstrate the different responsibilities of countries by 2020 levels.

From the comparison of each countries' INDCs, Germany and China's commitments appeared higher than those of Turkey and US. Also, from these observations, it is possible to claim that Germany and China took further steps and exceeded their commitments on route to the Paris Agreement.

Even though the Paris Agreement paved the way for more reasonable options for parties to cooperate, developing countries still had insufficient compensation. Regarding this argument, Turkey faced several obstacles regarding financing its obligations to the Agreement. One of the arguments of Turkey was to gain access to the Green Climate Fund, because Turkey as an emerging economy needed to increase its capacity in economic terms. Therefore, its policy initiatives were limited.

Correspondingly, even though Donald Trump's withdrawal from the Paris Agreement affected the climate change regime, responses of countries were not homogenous and as a deduction from this study, the policies of Germany, China and Turkey were supportive to the Agreement. After this withdrawal, Germany enhanced its bilateral relations with its EU counterparts with the joint statement of Angela Merkel, French President Emmanuel Macron and Italian Prime Minister Paolo Gentiloni, and with China during 12th EU-China Business Summit by expressing their cooperation to fulfil the Paris Agreement. However, it should be noted that

Trump's withdrawal from international commitments played an important role, because US had been one of the greatest countries which provided climate funding to developing countries. Thus, climate regime will obviously be affected by the obstructive policies of the Trump Administration.

Future prospects initiated that even though several strategies were enacted by Germany, China, US and Turkey, temperature will still increase and without strong commitments, keeping the temperature increase below 2°C is controversial. Germany, China and Turkey enacted several targets for 2020 which were in line with EU commitments. However, it is obvious that without participation of US, comprehensive climate regime will not be achieved. In this regard, the Trump Administration should burden more responsibilities and empower the Climate Action Plan. It is obvious that without participation of US, comprehensive climate regime will not be achieved. In this regard, the Trump Administration should burden more responsibility and empower the Climate Action Plan. On the other hand, US abstains from taking certain mitigation targets as illustrated in Trump's withdrawal from the Paris Agreement.

From the arguments above, the future prospects were presented from the illustrations of policies regarding each country's motivations presented in this thesis, in order to figure out the main motivations for future policies. It has been found that Germany has cooperative policies and will lead the emission targets in climate change regime. In contrast, US has obstructive policies during the period of the Trump Administration. China expanded its policies with the support of new emerging renewable technologies. It is seen that Turkey's future climate change projections are in line with EU policies and Turkey projected the Environment and Climate Action Programme of 2014 and 2020 in accordance with its pre-accession process.

In conclusion, this study explored the climate change policies of Germany, China, US and Turkey and how they reflect on their domestic policies in energy, the environment and the economy, as well as, their external relations with other major

players before and after the Paris Agreement. For future studies, it is illustrated that the main motivations behind climate change policies are changing while the regime is changing itself. Additionally, it is also found that countries seek compensation policies in order to fulfil their emission commitments and for this reason, developed and developing countries' participation vary greatly. In this regard, it is evaluated that when interests are not matched between developing and developed countries, the scope of cooperation over climate change strategies remains fairly limited.

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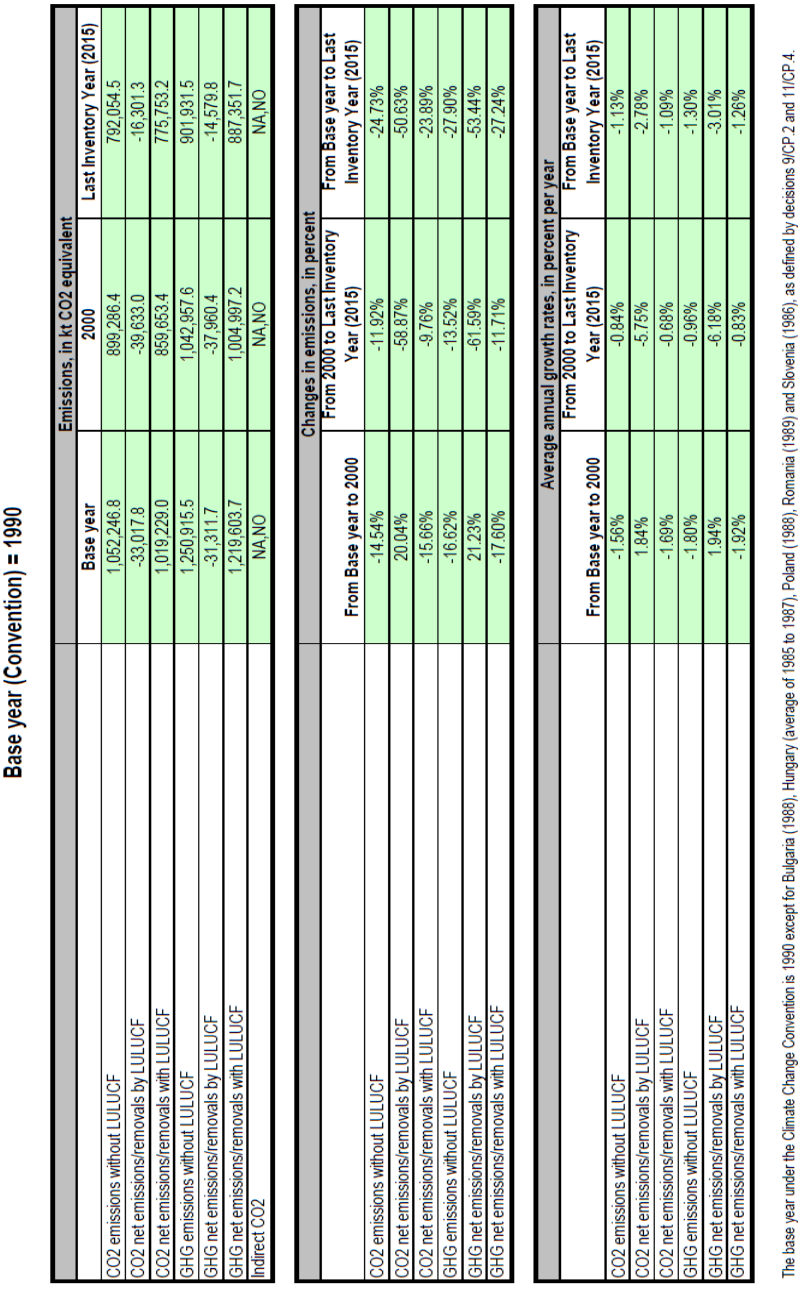
APPENDICES

APPENDIX A: Summary of GHG Emissions for Germany



Base year (Convention) = 1990

	Emissions, in kt CO2 equivalent		
	Base year	2000	Last Inventory Year (2015)
CO2 emissions without LULUCF	1,052,246.8	899,286.4	792,054.5
CO2 net emissions/removals by LULUCF	-33,017.8	-39,633.0	-16,301.3
CO2 net emissions/removals with LULUCF	1,019,229.0	859,653.4	775,753.2
GHG emissions without LULUCF	1,250,915.5	1,042,957.6	901,931.5
GHG net emissions/removals by LULUCF	-31,311.7	-37,960.4	-14,579.8
GHG net emissions/removals with LULUCF	1,219,603.7	1,004,997.2	887,351.7
Indirect CO2	NA,NO	NA,NO	NA,NO

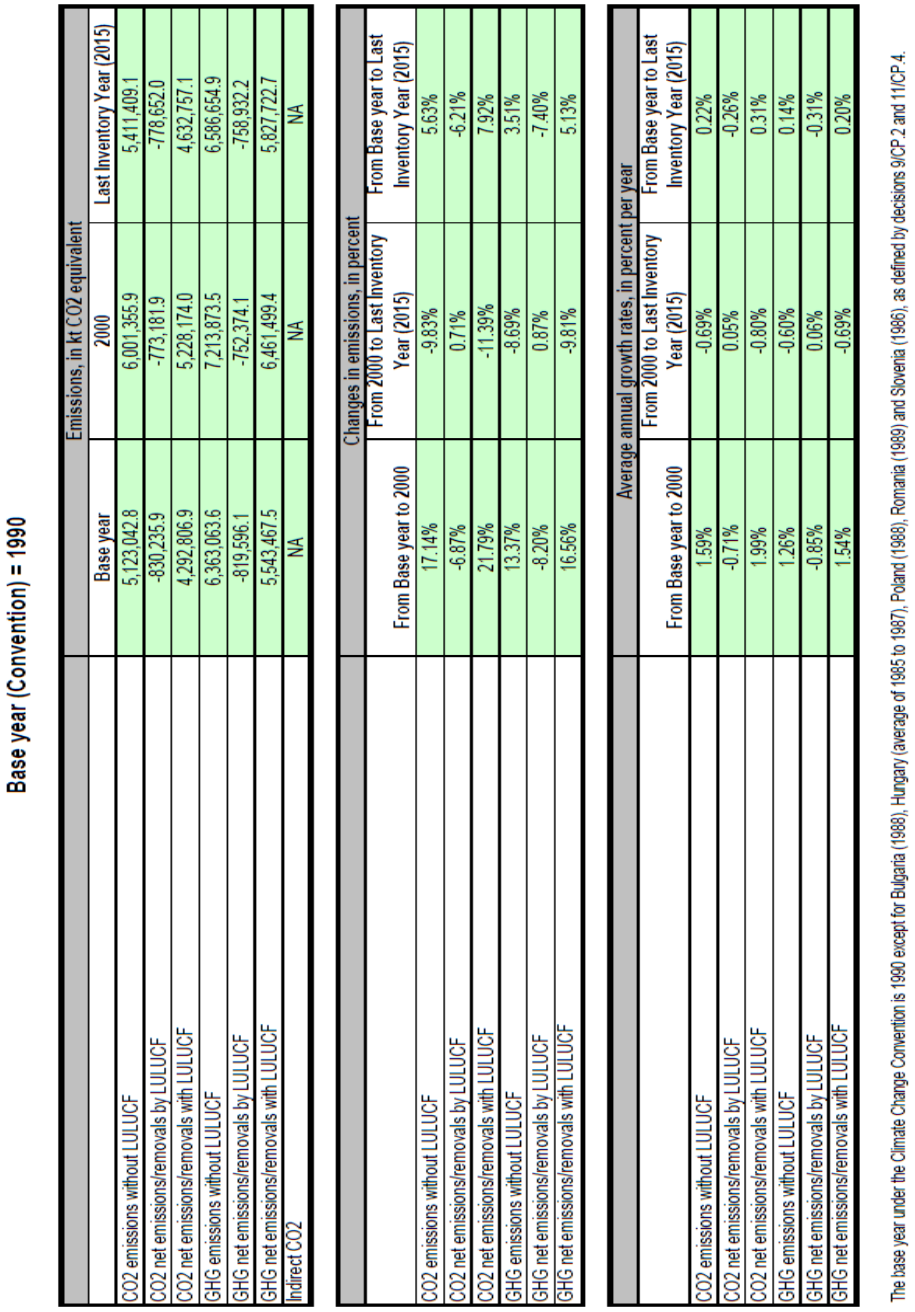
	Changes in emissions, in percent		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	-14.54%	-11.92%	-24.73%
CO2 net emissions/removals by LULUCF	20.04%	-58.87%	-50.63%
CO2 net emissions/removals with LULUCF	-15.66%	-9.76%	-23.89%
GHG emissions without LULUCF	-16.62%	-13.52%	-27.90%
GHG net emissions/removals by LULUCF	21.23%	-61.59%	-53.44%
GHG net emissions/removals with LULUCF	-17.60%	-11.71%	-27.24%

	Average annual growth rates, in percent per year		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	-1.56%	-0.84%	-1.13%
CO2 net emissions/removals by LULUCF	1.84%	-5.75%	-2.78%
CO2 net emissions/removals with LULUCF	-1.69%	-0.68%	-1.09%
GHG emissions without LULUCF	-1.80%	-0.96%	-1.30%
GHG net emissions/removals by LULUCF	1.94%	-6.18%	-3.01%
GHG net emissions/removals with LULUCF	-1.92%	-0.83%	-1.26%

The base year under the Climate Change Convention is 1990 except for Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986), as defined by decisions 9/CP.2 and 11/CP.4.

Source: "GHG Profiles – Annex I / Germany," UNFCCC, http://di.unfccc.int/ghg_profile_annex1, (accessed on 17 December 2017)

APPENDIX B: Summary of GHG Emissions for the United States of America



Base year (Convention) = 1990

	Emissions, in kt CO2 equivalent		
	Base year	2000	Last Inventory Year (2015)
CO2 emissions without LULUCF	5,123,042.8	6,001,355.9	5,411,409.1
CO2 net emissions/removals by LULUCF	-830,235.9	-773,181.9	-778,652.0
CO2 net emissions/removals with LULUCF	4,292,806.9	5,228,174.0	4,632,757.1
GHG emissions without LULUCF	6,363,063.6	7,213,873.5	6,586,654.9
GHG net emissions/removals by LULUCF	-819,596.1	-752,374.1	-758,932.2
GHG net emissions/removals with LULUCF	5,543,467.5	6,461,499.4	5,827,722.7
Indirect CO2	NA	NA	NA

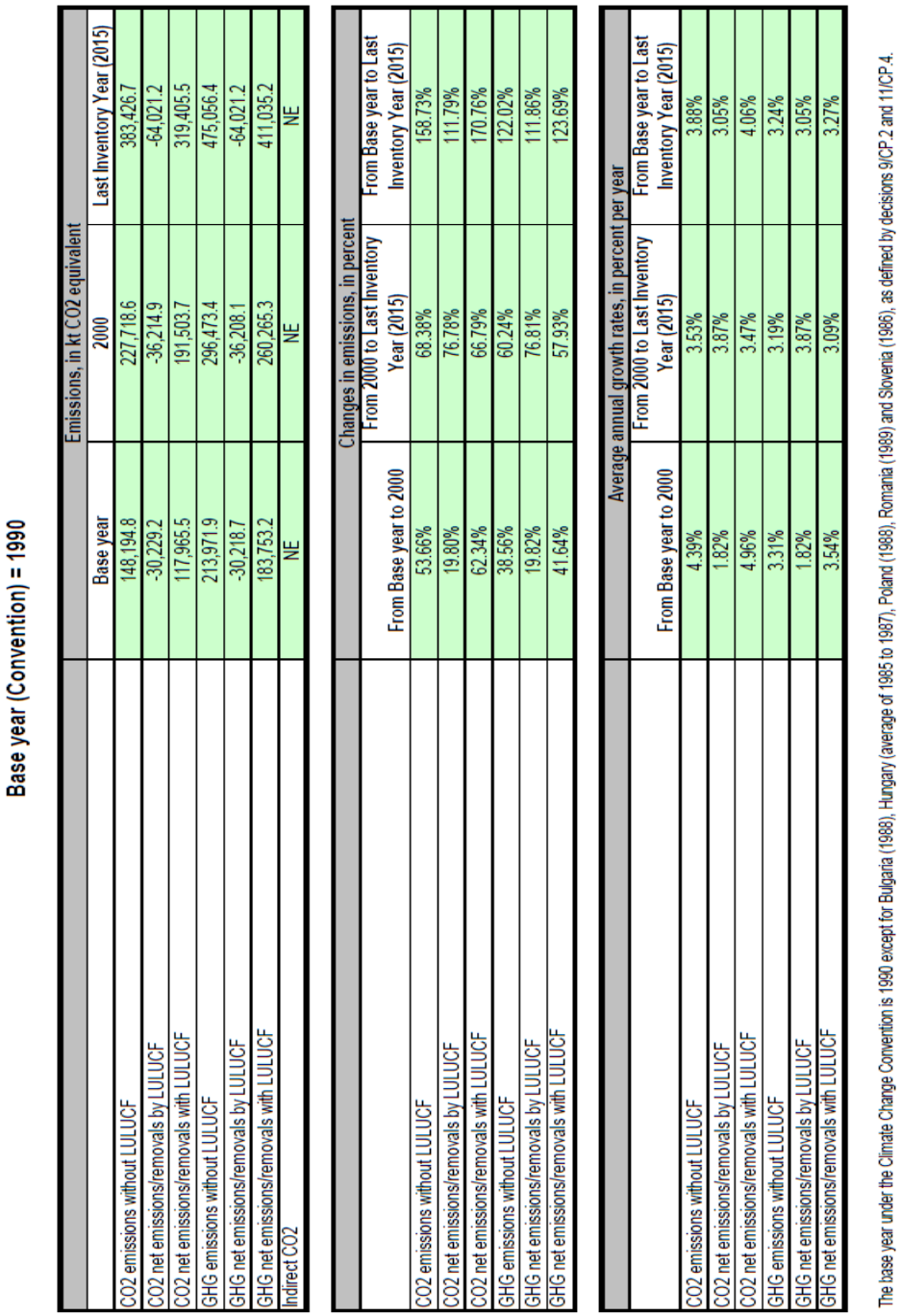
	Changes in emissions, in percent		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	17.14%	-9.83%	5.63%
CO2 net emissions/removals by LULUCF	-6.87%	0.71%	-6.21%
CO2 net emissions/removals with LULUCF	21.79%	-11.39%	7.92%
GHG emissions without LULUCF	13.37%	-8.69%	3.51%
GHG net emissions/removals by LULUCF	-8.20%	0.87%	-7.40%
GHG net emissions/removals with LULUCF	16.56%	-9.81%	5.13%

	Average annual growth rates, in percent per year		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	1.59%	-0.69%	0.22%
CO2 net emissions/removals by LULUCF	-0.71%	0.05%	-0.26%
CO2 net emissions/removals with LULUCF	1.99%	-0.80%	0.31%
GHG emissions without LULUCF	1.26%	-0.60%	0.14%
GHG net emissions/removals by LULUCF	-0.85%	0.06%	-0.31%
GHG net emissions/removals with LULUCF	1.54%	-0.69%	0.20%

The base year under the Climate Change Convention is 1990 except for Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986), as defined by decisions 9/CP.2 and 11/CP.4.

Source: "GHG Profiles – Annex I / United States of America," UNFCCC, http://di.unfccc.int/ghg_profile_annex1, (accessed on 10 June 2017)

APPENDIX C: Summary of GHG Emissions for Turkey



Base year (Convention) = 1990

	Emissions, in kt CO2 equivalent		
	Base year	2000	Last Inventory Year (2015)
CO2 emissions without LULUCF	148,194.8	227,718.6	383,426.7
CO2 net emissions/removals by LULUCF	-30,229.2	-36,214.9	-64,021.2
CO2 net emissions/removals with LULUCF	117,965.5	191,503.7	319,405.5
GHG emissions without LULUCF	213,971.9	296,473.4	475,056.4
GHG net emissions/removals by LULUCF	-30,218.7	-36,208.1	-64,021.2
GHG net emissions/removals with LULUCF	183,753.2	260,265.3	411,035.2
Indirect CO2	NE	NE	NE

	Changes in emissions, in percent		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	53.66%	68.38%	158.73%
CO2 net emissions/removals by LULUCF	19.80%	76.78%	111.79%
CO2 net emissions/removals with LULUCF	62.34%	66.79%	170.76%
GHG emissions without LULUCF	38.56%	60.24%	122.02%
GHG net emissions/removals by LULUCF	19.82%	76.81%	111.86%
GHG net emissions/removals with LULUCF	41.64%	57.93%	123.69%

	Average annual growth rates, in percent per year		
	From Base year to 2000	From 2000 to Last Inventory Year (2015)	From Base year to Last Inventory Year (2015)
CO2 emissions without LULUCF	4.39%	3.53%	3.88%
CO2 net emissions/removals by LULUCF	1.82%	3.87%	3.05%
CO2 net emissions/removals with LULUCF	4.96%	3.47%	4.06%
GHG emissions without LULUCF	3.31%	3.19%	3.24%
GHG net emissions/removals by LULUCF	1.82%	3.87%	3.05%
GHG net emissions/removals with LULUCF	3.54%	3.09%	3.27%

The base year under the Climate Change Convention is 1990 except for Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986), as defined by decisions 9/CP.2 and 11/CP.4.

Source: "GHG Profiles – Annex I / Turkey," UNFCCC, http://di.unfccc.int/ghg_profile_annex1 , (accessed on 17 December 2018)

APPENDIX D: TURKISH SUMMARY/TÜRKÇE ÖZET

Bu tezin amacı, Almanya, Çin, Amerika Birleşik Devletleri (ABD) ve Türkiye'nin iklim değişikliği politikalarını karşılaştırmalı bir perspektifle incelemektir. Bu çalışma ile Almanya, Çin, ABD ve Türkiye'nin iklim değişikliği politikalarının nasıl farklılıklar gösterdiğini bulunmayı hedeflenmektedir.

Bu tezin genel argümanı, bazı çalışmalar iklim değişikliği politikalarını ülkelerin iklim değişikliği politikaları işbirlikçi ya da engelleyici olarak tanımlanabilirse de, bu çalışma iklim değişikliği politikalarının iç, ekonomi, çevre ve enerji önceliklerini, hem de diğer ana aktörlerle ilişkilerini yansıttığıdır. Tez araştırması sırasında, Almanya, Çin, ABD ve Türkiye'nin iklim değişikliği politikaları Paris Anlaşması öncesi ve sonrası olarak ayrı ayrı incelenmiştir ve araştırmalar sonucunda bulunan bilgiler doğrultusunda, iklim değişikliği politikalarının ulusal ve uluslararası çıkarlarla uyumlu bir şekilde ilerlediği gözlemlenmiştir.

Yukarıdaki argümana ek olarak bu çalışmanın bulmayı hedeflediği noktalardan biri şunu göstermiştir ki ülkeler Paris anlaşmasına tamamıyla destekleyici ya da karşıt politikalar izlememişlerdir. İklim değişikliği politikalarına ilk katılımdan Paris sonrasına kadar, Almanya, Çin, ABD ve Türkiye'nin iklim rejimine katılımları ulusal çıkarları doğrultusunda ilerlemiştir. Bazı ülkeler, Almanya bölümünde de görüldüğü gibi, işbirlikçi politikalardan öncü rol oynayarak diğer politikalarını gerçekleştirmek adına yarar sağlayabilirler. Bunun yanı sıra bazı ülkelerin de başka siyasi çıkarlarını gerçekleştirmek adına iklim değişikliği rejimine katıldıkları görülmüştür. Bu çalışmadan şunu çıkarmak mümkündür ki iklim değişikliği uluslararası ilişkiler adına kritik bir konudur çünkü iklim değişikliği insanlığın ortak problemi olduğu gibi her devlet eşit oranda sonuçlarından etkilenmez ve devletlerin sorumlulukları da farklıdır. Bu sebeple iklim değişikliği politikalarını sadece iç politikalarla gözlemlemek doğru değildir. Uluslararası anlaşmalar, platformlar ve yaptırımlar da ülkelerin iklim değişikliği politikalarındaki pozisyonlarını değiştirmektedir.

Bu tez altı ana bölümden oluşmaktadır. Birinci bölüm olan Giriş bölümünü takiben, ikinci bölüm iklim değişikliğine bir tanım getirmekte ve uluslararası iklim diplomasisinin nasıl oluştuğunu göstermektedir. Bu bölümden sonraki bölümlerde, Almanya, Çin, ABD ve Türkiye'nin ayrı ayrı iklim politikaları incelenmiştir. Daha sonra bulunan tüm bilgileri uyumlaştırmak ve Almanya, Çin, ABD ve Türkiye'nin farklı duruşlarını karşılaştırmak adına sonuç bölümü sunulmaktadır.

Bu tezde kaynak olarak devlet yetkililerin konuşmaları yada ülke beyanları gibi birincil kaynakların kullanılmasının yanı sıra; kitaplar, makaleler ve raporlar kullanılmıştır. Bunun dışında ülkelerin resmi iki yıllık raporları, ulusal niyet beyanları gibi raporlarının yanı sıra Dünya Bankası, Birleşmiş Milletler istatiksel verileri kullanılmıştır.

Bu tezde çeşitli yazarların, mevcut argümanları incelenmiştir. Literatür taramasını takiben, en dikkat çekici Keohane ve Nye'nin geliştirdiği "karşılıklı bağımlılık teorisi" (complex interdependence theory) incelenmiş, yazarların tasvir ettiği karşılıklı bağlamlılıktaki üç karakteristik özellik; kısaca hem global hem de aktörler arası iletişim kanalları, ulusal politikalarla baskı grupları arasındaki uyum ve askeri gücün azalması, görülmektedir. Aynı zamanda bu, ülkelerin farklılaşmış çıkarlarının uymaması sonucu farklı politikalar izlemesine ve aktörler arası farklı sorumluluklar doğurmasına yol açmaktadır.

Buna paralel olarak, bulunan sonuç; ülkelerin iklim değişikliği rejimine katılımları karşılıklı yararlar doğrultusunda olduğudur. Ancak, ülkelerin ilim değişikliği politikalarına katılımları gelişme stratejilerine bağlıdır, ve bu sebeple, gelişmekte olan ülkeler teknoloji aktarımı ve finansal sebeplerden ötürü emisyon azatlımı politikalarına daha az katılmaktadırlar.
Bu argüman, ilklim değişikliği politikalarında, Keohane ve Victor tarafından geliştirilmekte ve yazarların "The Regime Complex for Climate Change" adlı makalesinde ülkeler kapasitesi doğrultusunda iklim değişikliği politikaları ilerletirler

ve bu kapasiteler onların pazarlık gücü olması ya da anlaşmanın olmadığı pozisyonlar yaratır. Bu noktada şunu söylemek mümkündür ki bazı endüstriyel devletler hala kendi iklim politikalarına kalkınmakta olan devletlerden karşılık politikalarında destekleyici politikalar bulamamaktadır. Bu amaçla, iklim rejimleri devletlerin bazı ulusal çıkarlarını sağlamak için anlaşma maliyetlerini azaltma, karşılıklı iletişimi ve krediyi sağlama anlamında olanak sağlar. Ancak bu çalışmadan çıkarılan sonuca dayanarak, devletler ve aktörler farklı çıkarlara sahiptir, ve iklim değişikliği politikalarında bazı devletler daha esnek politika yapma gücüne sahip değildirler. Tüm bunlar ışığında, bu tez, Almanya, Çin, ABD ve Türkiye'nin ulusal çıkarları doğrultusunda nasıl ve hangi sınırlarda iklim değişikliği politikaları izlediğini sunmaktadır.

Global iklim diplomasisine odaklanmak gerekirse, ilk olarak iklim değişikliğine tanım getirmek önemlidir. Kısaca, iklim değişikliği üzerine bir çok tanım yapılmakta olup, kabul değer tanım, uzun bir periyod sonundaki ortalama sıcaklık derecesindeki artışın doğal ya da insan kaynaklı sebeplerle artmasını içermektedir. Şunu söylemek mümkündür ki Sanayi Devrimi sonrasında, ortaya çıkan metan ve karbondioksit gibi zararlı gazların havaya karışmasıyla beraber iklim değişmektedir. Bunların sonucunda, son raporlar göstermektedir ki, iklim değişikliği bağlantılı doğal afetler artmakta, iklim değişikliği tahmin edilemez sel baskınları, fırtına, sıcaklık dalgası gibi sonuçlara sebep olup süregelen insan ve doğa sağlığını tehdit etmektedir. Bu aktiviteler, insanlığı sosyoekonomik olarak etkilemektedir ve bu sebeple uluslararası ilişkiler politikalarında önemli bir yer tutmaktadır.

Bu çalışmadan çıkarılan sonuçlardan biri şudur ki Almanya ve ABD iklim değişikliği politikalarına daha erken katılım sağlamasına rağmen; ABD uzun bir periyod boyunca iklim değişikliği konusuna bilimsel gerçekliği konusunda şüpheci yaklaşmıştır. Bununla beraber, Türkiye ve Çin'in iklim değişikliği rejimine katılımları çok daha sonra olduğu görülmektedir. Türkiye bu süreçte "bekle ve gör" politikası doğrultusunda ilerlediği anlaşılmıştır. Çin, bu süreçte daha özel bir konuma

sahiptir, çünkü 2008'den itibaren Çin Dünya'nın en büyük sera gazı emisyon değerine sahiptir fakat iklim değişikliği politikalarına sınırlı katılım sağlamıştır.

Almanya'nın ilk periyoddaki iklim değişikliği politikalarında, Avrupa Birliği (AB) politikalarının önemi görülmektedir. Ancak daha önemlisi, Almanya iklim değişikliği politikalarında alternatif çözümler üretme yoluna gitmiştir. Bu araştırmada gösterilen en önemli örnek Ekolojik Vergi Reformu'dur (Ecological Tax Reform). Bu reformla şu görülmektedir ki Almanya enerji odaklı politikalarında, enerjiyi efektif kullanmak için vergileri diğer ürünlere koymuş, sosyal sigortalarda azalımlar politikasına gitmiştir. Böylelikle daha çok iş olanağı yaratırken, enerji verimliliğini arttırmıştır.

Almanya'nın aksine, Çin'in ilk dönemdeki politikalarında, çok sınırlı sayıda iklim rejimine katılım sağladığı görülmektedir. Ancak Çin'in hem en çok emisyon oranına sahip olan ülke olarak sorumlulukları olarak hem de teknoloji transferi ve ekonomik gelişmesini tam anlamıyla sağlayamamış olması sebebiyle ikili bir pozisyonu vardır. Bu sebeple Çin erken dönemdeki politikalarında bir koalisyon oluşturma yolunda gitmiştir.

Almanya ve Çin'in aksine, ABD iklim değişikliği politikalarında hep çekingen olduğu görülmektedir. İlk dönem politikalarından günümüz politikalarına kadar ABD, kesin emisyon hedefleri veya zaman çizelgesi vermekten çekinmektedir. Başlangıç politikalarında da şüpheci yaklaşmış iklim değişikliğinin bilimsel gerçekliğini sorgulamıştır. Bu dönemde Temiz Hava Girişimi (Clean Air Act) gibi bazı gelişmeler kaydetse de uluslararası iklim müzakerelerinde politikalarını global iklim rejiminden ayırıcı hedefleri gözükmektedir.

Türkiye'nin iklim değişikliği politikalarına katılımının Almanya ve ABD'nin aksine daha geç olduğu görülmektedir. Ancak Türkiye coğrafi konumu dolayısıyla iklim değişikliğinden etkilenecek bir noktadadır. Türkiye 1980lere kadar iklim değişikliği politikalarında şüpheli yaklaşmıştır. Net olarak iklim değişikliği bu süreçte

raporlarında belirtilmese de kalkınma planlarında ekonomik kalkınma ile sürdürebilir çevre politikalarının önemi çizilmiştir. Türkiye'nin iklim politikalarında, ilk dönemde Ulusal Çevre Eylem Planı'nın (NEAP) oluşturulmasıyla başlandığı görülmektedir. Ulusal Çevre Eylem Planı'yla beraber kalkınma hedefleri çevresel faktörler dikkate alınarak sunulmuş; çevresel kirliliği azaltma, etkilerine hassasiyetin azaltması hedeflenmiş ve ekonomiyi çevre politikalarıyla beraber kalkındırmanı önemi vurgulanmıştır.

Araştırmalar sonucu, global iklim değişikliği politikalarının oluşumunun temellerinin 1980lere dayandığı görülmektedir. Bu sürecin en önemli parçalarından biri Birleşmiş Milletleri İklim Değişikliği Çerçeve Sözleşmesi'dir (UNFCCC). Sözleşme ile birlikte, anlaşmaya katılan devletler, ulusal niyet beyanlarını bildirmekte ve gelişmekte olan ve gelişmiş ülkeler arasındaki farklı sorumluluklar gözlemlenmektedir. Ancak, bu sözleşmeyle beraber, gelişmiş ülkelerin öncü rolü olurken gelişmekte olan ülkelerin daha az sorumlulukları olduğu gözlemlenmiştir. Bu sebeple, Almanya, Çin, ABD ve Türkiye'nin çerçeve sözleşmeye katılımının değişiklik gösterdiği bu araştırmayla beraber keşfedilmiştir.

Yukarıda belirtilen argümana dayalı olarak, Birleşmiş Milletleri İklim Değişikliği Çerçeve Sözleşmesi'nde Almanya diğer iklim politikalarında olduğu gibi AB politikalarını izlemektedir. Örneğin, Almanya Aksiyon Planı (The Action Plan of Germany), Almanya'nın uluslararası sorumluluklarına dikkat çekmekte, bilgi üretme ve yayma aracılığıyla, insan sağlığı, biyoçeşitlilik, su rejimi ve tarım konularına dikkat çekmektedir. Bu çerçeve sözleşmede Almanya AB politikası olan %8 azalım hedefini gerçekleştirmiş ve çok daha üzerinde sera gazı emisyonu yapmıştır.

Çin, Birleşmiş Milletleri İklim Değişikliği Çerçeve Sözleşmesi'nde, ek protokol 1 olmayan ülkeler arasında yer almaktadır. Bu sebeple Almaya ve ABD'den daha az emisyon hedeflerine sahiptir. Ancak, görüşmeler süresince Çin'in devlet yetkililerinin bu araştırmada belirtilen resmi konuşmalarından yapılan çıkarımlarda, Çin'in argümanı gelişmiş ülkelerin emisyon hedeflerinin arttırılmasına yönelik

olmaktadır. Ancak Çin sözleşme doğrultusunda azalım hedeflerini gönüllü olarak belirtmiştir.

ABD'nin belirli emisyon azalım hedeflerine karşı olduğu Birleşmiş Milletleri İklim Değişikliği Çerçeve Sözleşmesi'nde de görülmektedir. Öyle ki, ABD'nin sözleşmeye katılımı ulusal çıkarla ters düşmekte, ülkedeki idari yapının karşıt görüşleriyle karşılaşmıştır ve Senato katılımı reddetmiştir.

Almanya, Çin ve ABD'nin Çerçeve Sözleşmedeki pozisyonlarından farklı olarak Türkiye farklı politikalar ilerletmiş, ekonomik gelişmesinin göz önünde bulundurulması amacıyla özel konumunun göz ardı edilmemesi gerekçesiyle 2004'e kadar anlaşmaya katılmadığı görülmüştür. Bu araştırma şunu gösterir ki Türkiye'nin bu dönemdeki politikaları da AB ile uyum sağlamaktadır. Örneğin Türkiye'nin Çerçeve Sözleşme doğrultusunda ulusal niyet beyanı AB politikalarıyla uyumludur.

Kyoto Anlaşması, iklim değişikliğinde uluslararası bir ortak alan oluşturmada başarısızlık olarak anılabilir. Bunun sebebinin de uluslararası politikaların ülkelerin ulusal politikalarında büyük değişiklikler gerektirmesiyle, ortak bir strateji oluşturmaktaki zorluktur. Çin, ABD ve Türkiye'nin aksine Almanya Kyoto Anlaşmasına tamamıyla katılım sağlamış, AB'nin %21'lik azalım hedefini geçmiştir.

Çin Kyoto Protokolü rotasında Grup 77 ile yer almış, ekonomik çıkarlarını ve müzakerelerde yalnız kalmamak adına kolektif bir koalisyon politikalarını ilerletmiştir. Aynı zamanda, Çin Temiz Kalkınma Mekanizmasına üyedir. Böylelikle Çin alternatif emisyon azalım stratejilerinde alternatif yollar izlemiş, çeşitli Temiz Kalkınma Mekanizması projelerine katılmıştır.

ABD, diğer süreçlerdeki gibi Kyoto'da kesin emisyon hedefleri ve zaman bildirgelerine karşı çıkmış, Kyoto Protokolünü imzalamamıştır. Bunun asıl sebebi ulusal çıkarlar ve gelişme hedefleridir. Kongre'nin Kyoto'ya olumsuz ve şüpheci bakışı, Bush Yönetimi'nin Kyoto'ya karşı çıkmasına sebep olmuştur.

Türkiye'nin Kyoto süresince ülkenin ulusal ekonomik kalkınma stratejilerinin uluslararası platformla çakıştığı görülmektedir. Türkiye'nin özel statüsünün kabul edilene kadar anlaşmaya taraf olmadığı aşikârdır.

Bunların dışında iklim değişikliğinde orta dönem politikalarında Almanya uluslararası sorumluluklarına dikkat çekmektedir. Bunun için Almanya adaptasyon stratejileri belirlemiş, gelişmiş ülkelerin gelişmekte olan partner ülkelere olan sorumluluklarının altını çizmiştir. Bunun yanı sıra bu dönemde Almanya'nın iklim değişikliği politikaları enerjide ve iç politikalarında olan stratejilerini de göstermektedir. Buna en büyük örnek "Energiewende" olarak gösterilmektedir. Angela Merkel, iklim değişikliği politikalarında enerji duyarlı bir yol izlemiş, Energiewende ile 2020'ye kadar %35 emisyon azalım hedefi koymuştur. Planın en önemli noktası şunu gösterir ki Almanya enerjide geri dönüştürülebilir enerji sağlamak adına eski statüsünde yön değiştirme yoluna gitmiştir.

Çin'in orta dönem politikalarında da sınırlı katılımı gözlemlenebilir. Ancak bu dönemde bazı gelişmeler kaydedilmiştir. Bunlardan en önemlisinin Çin Ulusal İklim Değişikliği Programı'nın kabul edilmesidir. Plan spesifik olarak enerji, ekonomi ve ulusal stratejileri belirtirken, Çin'in gelişmekte olan ülke olduğunun altını çizmektedir. Ancak Çin'in uluslararası iklim politikalarına katılımının da önemini vurgulamaktadır. Programın asıl önemi, Çin'in enerji politikalarının enerji odaklı büyümedeki hedeflerini belirtmiş, alternatif enerji kaynakları kullanımını hedef almıştır. Bu Planı takiben sürdürülebilir enerji kanunu konulmuştur. Ek olarak, bu dönemdeki en önemli engellerden biri, iklim değişikliğiyle ilgili Çin'in iklim politikalardan sorumlu resmi yönetimin iç yapısındaki farklı görüşlerdir. Bu sebeple de ulusal iklim politikaları Çin'in uluslararası alanlardaki stratejilerinde farklılıklar göstermektedir. Bunların dışında, Çin çeşitli ulusal kalkınma planları yayınlamış, ekonomi, çevre ve enerjiyi politikalarını ayırmadan paralel hedef alacak şekilde bazı stratejiler belirlemiştir. Bu araştırmada 11. ve 12. Beş Yıllık Kalkınma Planları örnek gösterilmektedir.

Amerika, George W. Bush döneminde, iklim değişikliği politikalarına ekonomi ve enerji gelişmelerine etki ettiği gerekçesiyle destekleyici bir rol oynamamıştır. Bu yaklaşım Amerika'nın hem iç politikasında Senatoda görülmekte, hem de özel sektörde koalisyon gruplarının oluşmasına sebep olmaktadır. Obama döneminde ABD'nin tutumu biraz daha pozitif olmaktadır ve bu da İklim Eylem Planı'ndan açık görülmektedir. Eylem Planına göre enerji alanında kaynakların verimli kullanılması ve iklim değişikliği müzakerelerine katılım hedeflenmiştir.

Amerika'nın aksine Türkiye orta dönem politikalarında daha düz ilerlemiş, kapasitesi doğrultusunda stratejiler geliştirmiştir. Sekizinci ve Dokuzuncu Beş Yıllık Kalkınma Planları enerjide verimlilik, ekonomide global rekabet ve sürdürülebilir politikaların altı çizilmektedir. Ancak Türkiye iklim değişikliği azalım politikalarını Onuncu Beş Yıllık Kalkınma Planlarına kadar spesifik olarak belirtmemiştir. Bunların yanı sıra, Türkiye'nin bu dönemdeki politikaları aynı zamanda diğer aktörlerle de ilişkilerini göstermektedir. Türkiye AB üye ülkesi olarak bazı stratejiler geliştirmesi gerekmektedir ve iklim değişikliği bu bileşenlerden biridir. Bu araştırma şunu gösterdi ki Türkiye'nin orta dönem politikalarında da AB ile uyumlu stratejiler geliştirmektedir. Bunlardan en dikkat çekicisi Türkiye'nin uzun vadedeki 2001 ve 2023 için hazırlamış olduğu kalkınma planıdır. Kalkınma Planı spesifik olarak sağlıklı bir çevrede yaşamanın gereğini belirtmektedir. Aynı zamanda bu hedef Avrupa Enerji Stratejileriyle de uyumludur.
Birleşmiş Milletleri İklim Değişikliği Çerçeve Sözleşmesi sürecine ek olarak, Taraflar Konferansı (COP) ile birlikte raporlama süreci ve azalım hedefi belirleme sistemine dahil olmuşlardır. Almanya, Çin, ABD ve Türkiye'nin bu konferanslardaki tutumları ve bildirimleri, bu araştırmada incelenmiş olup, spesifik politikalarındaki değişiklikler açık bir şekilde görülmektedir.

Taraflar Konferansları boyunca Almanya işbirlikçi politikalar geliştirmiştir, uzun dönem odaklı politikaların önemini çizmiştir. Almanya uluslararası iklim

platformları ve anlaşmalara katılımın altını çizmiş, gelişmekte olan ülkelere finansal desteğin önemini vurgulayarak Yeşil İklim Fonu'na önemli katkılar sağlamıştır.

Almanya'yı takiben Çin Taraflar Konferanslarında gelişmekte olan ülkelerin ekonomik büyümelerine dikkat çekmiş, gelişmiş ülkelerin finansal transferlerinin gerekliliğini vurgulamıştır. Ancak bunların yanı sıra, Taraflar Konferansları boyunca alternatif çözümlerinde önemini belirtmiştir.

Almanya ve Çin'in aksine, ABD Taraflar Konferansı boyunca bazı emisyon azalım hedefleri alsa da daha sonra bunlara karşıt politikalar da sergilemiştir. Ayrıca, bu konferanslar süresince, iklim fonu için katkılarını beyan etse de Trump sonrası karşıt bir politika izlemiştir.

Türkiye Taraflar Konferansı boyunca, emisyon hedefleri belirlemede kalkınma kapasitesini geliştirme ihtiyacı ve enerji teknolojisi aktarımının altını çizmektedir. Bunların yanı sıra özel statüsünün dikkate alınması gereğini belirtmiştir. Taraflar konferansları boyunca ekonomik ihtiyaçlarının altını çizen Türkiye, daha sonraki dönemlerde çevre fonlarına erişim ihtiyacı argümanını dile getirmektedir. Bu argüman Paris sonrası politikalarında önemli rol oynayacaktır.

Paris Anlaşmasıyla beraber, yeni bir iklim değişikliği rejiminden bahsetmek doğrudur. Paris Anlaşması'yla beraber ülkeler, kapasiteleri doğrultusunda hedefler belirlemiş, "ortak fakat farklılaştırılmış" ilkesi doğrultusunda amaçlar belirlenmiş ve bunları ulusal bildirimlerinde yayınlaşmışlardır. Bu araştırma ile birlikte, Paris Anlaşması'nın global 2020 hedeflerine çok büyük katkı sağladığı belirtilmiştir.

Paris Anlaşmasını takiben, Almanya'nın iklim rejimi boyunca destekleyici tavrı Paris Anlaşması'ndan sonra da değişmemektedir. Özellikle ABD Cumhurbaşkanı Donald Trump'ın Paris Anlaşması'ndan çekilmesiyle beraber, Almanya diğer AB partnerleriyle ortak bildirge yayımlamış ve Paris Anlaşması'nın yeniden gözden geçirilmesini tartışmaya açık olmadığının altını çizmiştir.

Çin'in önceki politikalarının aksine Paris Anlaşması'na destekleyici bir tavır sergilediği görülmektedir. Paris süresince Çin ulusal bildirgelerini yayınlamış ve yüksek emisyon hedefleri sunmuştur. Aynı zamanda AB ile uyumlu politikalar gerçekleştirmiştir.

Almanya ve Çin'in yanı sıra, ABD'nin Paris Anlaşması'na tutumu önemli bir yer arz etmektedir çünkü ABD'nin hem en fazla emisyon üreten ülkelerden biri olması hem de iklim fonuna katılımda büyük paydaya sahip olması ABD'nin iklim rejiminde kritik rolünü göstermektedir. Ancak diğer alanlarda olduğu gibi iklim fonu da Trump tarafından sorgulanmıştır. Ayrıca, Obama dönemindeki yapıcı Eylem Planı da Trump tarafından yeniden düzenlenmiştir. Trump döneminde, uluslararası iklim anlaşmalarına katılım olumsuz yönde etkilenmiştir.

Türkiye'nin Paris Anlaşması sonrası tutumunda bazı farklılıklar olduğu görülmüştür ve iki önemli tartışma olduğu araştırılmıştır. Bunlardan birincisi Türkiye'nin Yeşil İklim Fonu'na erişimi diğeri ise Trump'ın Paris Anlaşmasından çekişmesiyle olan tartışmadır. Türkiye'nin gelişmekte olan ekonomi olmasıyla beraber Paris Anlaşması boyunca yeşil iklim fonuna erişmesi mümkün olmamıştır. Bu sebeple iklim değişikliği adına emisyon azalım hedefleri alırken Türkiye politikalarında mütekabiliyet sorunu ortaya çıkmıştır. Bu argümana ek olarak diğer argüman ise Trump sonrası dönemde, ABD'nin hem ekonomik kapasitesi hem de sera gazı emisyonunun asıl sahibi olan ülkelerden biri olması dolayısıyla tartışmalar açığa çıkmış; Türkiye de bu noktada Paris Anlaşmasına devam etmek konusunda şüpheci yaklaşmıştır. Ancak Anlaşmadan çekilmenin diğer ilişkilerde daha masraflı olacağı ve AB'ye erişimi etkileyeceği aşikardır. Bu sebeple Türkiye hala Paris Anlaşmasına taraf olan ülkelerdendir.

Bunların yanı sıra, şunu söylemek mümkündür ki ülkelerin iklim değişikliği politikaları aynı zamanda diğer aktörlerle ilişkilerini ve müzakere süreçlerini de göstermektedir. Bu Paris Anlaşmasıyla beraber daha da önem arz etmektedir. Çin'in

Paris öncesi Obama döneminde ABD ile olumlu ilişkileri, Başkan Xi ve Obama'nın ortak bildirgeleri bunun en önemli örneğidir. İki başlıca emisyon lideri bir araya gelip, 2030 için %20'lik ortak hedef belirlemişlerdir.

Çin'in iklim değişikliği politikaları Paris sonrası da diğer önemli aktörlerle ilişkilerini de göstermektedir çünkü Obama dönemindeki olumlu paydaşlık Paris sonrası değişmektedir, bunlardan en önemlisi Çin ve AB ilişkileridir. Orta dönem periyodlarda, Çin'in AB ile uyumlu bazı stratejileri görülmektedir. Bunlardan en önemlisi 2005'deki sıfıra yakın emisyon hedefleridir. Bu ilişkinin Paris Anlaşmasından sonra geliştiği görülmektedir. AB ile Çin arasında, Paris Anlaşması'ndan sonra olumlu adımlar atıldığı görülmektedir 12. AB-Çin Dünya Zirvesi'nde Paris Anlaşması'nın iki taraf için hiçbir nüansız tamamen yürütülmesi hedefi belirlenmiştir. Bunlara ek olarak, Türkiye'nin de iklim politikaları diğer aktörlerle ilişkilerini göstermektedir özellikle yukarıda belirtilen AB'ye erişim stratejilerinde açıkça gözükmektedir.

Planlanan iklim değişikliği azalım hedeflerinde de Almanya, Çin, ABD ve Türkiye'nin katılımları, bu ülkelerin ulusal çıkarları doğrultusunda politikalar yürüteceğini göstermektedir. Bu bağlamda Almanya 2020 AB hedefleri doğrultusunda ilerlemektedir. Böylelikle, şunu söylemek mümkündür ki Almanya ulusal ve uluslararası çıkarları doğrultusunda iklim değişikliği politikalarında önemli bir role sahip olmaya davam edeceği gibi öncü rol oynamaya devam edecektir.

Almanya gibi Çin'in planlanan iklim değişikliği politikaları da şunu göstermektedir ki Çin daha çok AB ile uyumlu stratejiler geliştirebilir. Bu hedefleri gerçekleştirmek için Çin, enerji politikalarında yenilenebilir enerji hedefleri göstermektedir. Aynı zamanda 2020 ve 2030 için önemli derecede emisyon hedefi belirtmektedir. Bu hedefler Çin için önemli yer kaplamaktadır çünkü coğrafi konumu dolayısıyla Çin iklim değişikliğinden doğal yollarla etkilenecek bölgede yer almaktadır.

ABD'nin planlanan iklim değişikliği politikaları bu araştırmada görüldü ki Trump yönetimi ile daha destekleyici politikalar olmayacaktır. ABD yönetimi, ülkeyi ekonomik ve enerji alanlarında geriletecek herhangi bir anlaşmayı kabul etmeyecektir. ABD mevcut düzen politikalarında ilerlemeye devam edeceği aşikar bir şekilde görülmektedir.

Türkiye de Çin ve Almanya gibi Paris sonrası da emisyon planlarına devam etmektedir. Örneğin Türkiye İklim Değişikliği Eylem Planı'nı yürürlüğe sokmakta enerji, endüstri, bina, tarım ve orman alanlarındaki çeşitli iç politikalarını uluslararası stratejilerle uyumlu hale getirmek için hedefler belirlediği bu araştırmada gösterilmektedir. Bunların yanı sıra AB politikalarıyla uyumlu olmak adına 2023 hedefleri belirlemiş, AB ile olan ilişkileri çevre fonlarının sağlanmasıyla gelişmiştir. Tüm bunların doğrultusunda şunu söylemek mümkündür ki Türkiye Paris döneminde de ekonomik, enerji ve çevresel kapasitesi doğrultusunda hedefler koymuştur.

Sonuç olarak, iklim değişikliği insanlığı farklı derecelerde etkilemekte ve iklim hedefleri ülkelerin ulusal çıkarları doğrultusunda ilerlemektedir. Neo-liberal bakış açısıyla ülkeler iklim değişikliği politikalarına uluslararası anlaşmalar, kurumlar ve devlet stratejileriyle katılmaktadırlar. Bu sebeple ülkelerin emisyon azalım beyanları ve hedefleri değişiklik göstermektedir. Bu durum en çok gelişmiş ülkelerin katılımı ve gelişmekte olan ülkelerin sınırlı hedeflerinde gözükmektedir. Bu tartışmanın odağı olarak gelişmekte olan ülkeler ekonomi ve teknoloji kalkınmalarını henüz tamamlayamamıştır ve bu sebeple az sayıda gönüllü hedefler koymuşlardır. Diğer taraftan gelişmiş ülkeler yaptırımlarına karşılık politikalarında hala uyumlu bağlamlar bulamamaktadırlar.

Yukarıda belirtilen argüman aynı zamanda Türkiye ve Çin gibi ekonomik kalkınma hedeflerini gerçekleştirmemiş devletler için sınırlı sayıda katılımı tetiklemektedir. Ancak, bu ülkelerin iklim rejimine başka çıkarlarını gerçekleştirmek adına katıldığı da görülmektedir. Diğer bir taraftan AB ülkesi olarak Almanya öncü rolünü kaybetmemek adına iklim değişikliği politikalarına destekleyici bir yapı sergilediği

görülmüştür. Almanya, Türkiye ve Çin'in aksine Amerika iklim politikalarında hep çekimser olmuştur ve kesin emisyon hedeflerinin belirlenmesi, zaman kısıtlamaları gibi bildirgelere ulusal çıkarlar dolayısıyla katılmamıştır.

Yapılan bu araştırma şunu göstermiştir ki Almanya, Çin, ABD ve Türkiye Paris Anlaşmasına tamamen işbirlikçi ya da engelleyici politikalar yürütmemektedir. Bu sebeple, bu tez ülkelerin Paris Anlaşması'na katılımlarında teşviklerini göstermektedir. Şunu söylemek mümkündür ki Paris Anlaşması ülkelere kapasiteleri doğrultusunda hedefler alması için alanlar yaratmış ve büyük emisyonların sahipleri Çin ve ABD katılımıyla önemli yol kat edilmiştir. Ancak Trump'ın Paris Anlaşmasından çekilmesi sonucunda Türkiye gibi ekonomik kalkınmayı sağlama hedefi olan ülkeler anlaşmayı sorgulamışlardır. Bunlara ek olarak, iklim değişikliği politikalarında alternatif stratejiler geliştiren Çin, Obama döneminde ABD ile ortak bildirgelere sahipken, Trump sonrası AB ile uyumlu stratejiler geliştirmiştir.

Gelecek çalışmalar için şunu söylemek mümkündür ki ülkelerin iklim değişikliği ana hareketleri rejimlerdeki ulusal çıkarlarıyla orantılı olarak ilerlemektedir. Öteki bir değişle rejim değiştikçe ulusal çıkarlar da değişmektedir. Buna ek olarak, gelişmiş ve gelişmekte olan ülkelerin bu rejimlere katılımları kapasiteleri ve kalkınma stratejileri dolayısıyla farklılık göstermeye devam edecektir. Böylelikle, ülkelerin çıkarları birbirine uymadıkça, işbirlikçi politikaları gerçekleştirmek zor olacaktır.

APPENDIX E: TEZ FOTOKOPİ İZİN FORMU

ENSTİTÜ

Fen Bilimleri Enstitüsü [ ]

Sosyal Bilimler Enstitüsü [X]

Uygulamalı Matematik Enstitüsü [ ]

Enformatik Enstitüsü [ ]

Deniz Bilimleri Enstitüsü [ ]

YAZARIN

Soyadı : OKUTAN
Adı : EBRU
Bölümü : ULUSLARARASI İLİŞKİLER

TEZİN ADI (İngilizce) : CLIMATE CHANGE POLICIES OF GERMANY, CHINA, THE UNITED STATES AND TURKEY: A COMPARATIVE ANALYSIS

TEZİN TÜRÜ : Yüksek Lisans [X] Doktora [ ]

1. Tezimin tamamı dünya çapında erişime açılsın ve kaynak gösterilmek şartıyla tezimin bir kısmı veya tamamının fotokopisi alınsın. [ ]
2. Tezimin tamamı yalnızca Orta Doğu Teknik Üniversitesi kullancılarının erişimine açılsın. (Bu seçenekle tezinizin fotokopisi ya da elektronik kopyası Kütüphane aracılığı ile ODTÜ dışına dağıtılmayacaktır.) [ ]
3. Tezim bir (1) yıl süreyle erişime kapalı olsun. (Bu seçenekle tezinizin fotokopisi ya da elektronik kopyası Kütüphane aracılığı ile ODTÜ dışına dağıtılmayacaktır.) [ ]

Yazarın imzası ..... Tarih .....