

RUSSIA'S POLICIES ON CLIMATE CHANGE NEGOTIATIONS:
IN SEARCH OF A DECISIVE ROLE?

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ABSTRACT

RUSSIA'S POLICIES ON CLIMATE CHANGE NEGOTIATIONS: IN SEARCH OF A DECISIVE ROLE?

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This thesis analyzes the climate change policies of Russia in order to identify the dynamics behind its strategies with respect to post-2020 climate change regime. Contrary to the views of scholars who consider Russia's position on climate change as low profile, this thesis argues that Russia seeks to play a decisive role in the formation of a new regime on climate change since it is able to assume new responsibilities and able to adopt its economic structure to a low carbon emission model.

In addition to examining historical background of the climate change problem and international responses for its solution within the context of United Nations Framework Convention on Climate Change (UNFCCC), this thesis also identifies Russia's profile in terms of economy, energy and greenhouse gases together with its key policy developments related to climate change. Moreover, this thesis discusses the evolution of Russia's stance with respect to international climate change regime from a historical perspective. Furthermore, this thesis explains the factors that shape the climate change negotiation strategies of Russia.

Keywords: Russia, energy, climate change, UNFCCC, post-2020 climate change regime

ÖZ

RUSYA'DIN KLİM DE İKLİM MÜZAKERELERİNİN POLİTİKALARI:
LİDERLİK ROLÜ ARAYI MI?

Koşan, Ezgi

Yüksek Lisans, Avrasya Çalışmalar, Bölümü

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Bu tez, 2020 sonrası, iklim rejimi kapsamındaki stratejilerine ilişkin dinamikleri ortaya koymak için Rusya'nın iklim değişikliği politikalarını analiz etmektedir. Bu tez, Rusya'nın yeni iklim değişikliği rejimi müzakereleri çerçevesindeki pozisyonunu düşük profilli olarak değerlendiren akademisyenlerin görüşlerinin aksine, Rusya'nın yeni yükümlülükler almaya ve ekonomisini düşük karbonlu ekonomiye dönüştürmeye muktedir olduğunu, nedeniyle, yeni iklim rejiminin belirlenmesinde belirleyici bir rol oynamaya çalıştığını, iddia etmektedir.

Bu tez, iklim değişikliği problemi ve bu sorunun çözümü için karlı, BM DÇS kapsamındaki uluslararası tepkileri tartışarak, Rusya'nın ekonomi, enerji ve sergazi, emisyonlar bakımından görünümü ile iklim değişikliği üzerine temel politika gelişmelerini ortaya koymaktadır. Ayrıca, bu tez Rusya'nın uluslararası iklim değişikliği rejimi çerçevesindeki durumunun değişimini tarihi bir bakış açısıyla tartışmaktadır. Bunun yanı sıra bu tez, Rusya'nın iklim değişikliği müzakere stratejilerini etkileyen faktörleri açıklamaktadır.

Anahtar kelimeler: Rusya, enerji, iklim değişikliği, BM DÇS, 2020 sonrası, iklim değişikliği rejimi

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LIST OF ABBREVIATIONS

AWG-ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
AWG-LCA	Ad Hoc Working Group on Long-Term Cooperative Action
BAP	Bali Action Plan
BRICS	Brazil, Russia, India, China and South Korea
CBDR	Common But Differentiated Responsibilities
CDM	Clean Development Mechanism
CH ₄	Methane
CO ₂	Carbon Dioxide
COP	Conference of Parties
CMP	Conference of the Parties Serving as the meeting of the Parties to the Kyoto Protocol
EBDR	European Bank for Restructuring and Development
EIA	Energy Information Administration
EITs	Economies in Transition
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHGs	Greenhouse Gases
HFCs	Hydro fluorocarbons
IAR	International Assessment and Review
IEA	International Energy Agency
IISD	International Institute for Sustainable Development
INC	Intergovernmental Negotiating Committee
IR	International Relations
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
LULUCF	Land Use, Land-Use Change and Forestry
MRV	Monitoring Reviewing and Verifying

NAMAs	Nationally Appropriate Mitigation Actions
N ₂ O	Nitrous Oxide
OECD	Organization of Economic Cooperation and Development
PFCs	Per fluorocarbons
PWC	Pricewaterhousecoppers
REDD	Reducing Emissions From Deforestation and Forest Degradation
SF ₆	Sulphur hexafluoride
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
US	United States
USD	United States Dollars
UN	United Nations
UNCHE	United Nations Conference on the Human Environment
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WMGHG	Well-Mixed Greenhouse Gases
WEO	World Energy Outlook
WRI	World Resource Institute
WTO	World Trade Organization

CHAPTER 1

INTRODUCTION

This thesis analyzes the evolution of international climate change regime and the role of Russia in it with specific emphasis on climate change policies of Russia related to climate change negotiations and finally attempts to reveal the prospects for Russia in new climate change regime which will be applicable to post 2020 period. The argument of this thesis is as follows: contrary to the views of scholars who consider Russia's position on climate change as low profile, this thesis argues that Russia seeks to play a decisive role in the formation of new regime on climate change since it is able to assume new responsibilities and able to adopt its economic structure to a low carbon emission model.

Climate change is one of the most severe problems that the humankind has ever faced with. However, it was only in 1990s the human being accepted its role for the global warming and oriented to a global solution. United Nations Framework Convention on Climate Change (UNFCCC) is an outcome of this awakening process. Although very exhausting negotiations were undertaken since the end of the 1990s, the commitments to limit Green House Gases (GHGs) emissions could target only a period of 12 years within two tracks of Kyoto Protocol from 2008 to 2012 in the first commitment period and from 2013 to 2020 in the second commitment period. It is commonly accepted that this level of ambition is not enough to limit the temperature increase by 2°C to prevent the catastrophic consequences of climate change. However, while determining their actions to combat with climate changes, countries take into account the economic needs and constraints of their countries to maintain their development efforts. So, there is a common tradeoff for countries with regard to their mitigation and adaptation efforts and economic growths.

Russia as a post-Soviet state experienced a very rapid transition in terms of its economy, politics and social structure during especially 1990s. The evolution of the international climate change regime coincided with the dissolution of the Soviet Union. In the meantime, Russia tried to show its eagerness to integrate to the world in various aspects, one of which was the strong support of it for the United Nations Framework Convention on Climate Change (UNFCCC) process which it signed and ratified in 1994. However as time passed, making decision on climate change related issues got more difficult since the climate change process was getting more ambitious necessitating more dedication from developed countries. Russia was granted as a developed country for the purposes of the Convention and included in Annex I which made the decisions even more complicated for the country with accompanying expectations for extensive contributions from Annex I countries. However, Russia, in deed was a country of redeveloping which made it more susceptible to the constraints due to the mitigation and adaptation processes. Fortunately it achieved to finalize negotiations for the Kyoto Protocol with the least threatening commitments for its economy and finally after a contentious period it ratified the Protocol in 2005. When the negotiations started for a new climate change regime for post 2012 period and peaked in Copenhagen in 2009, Russia clearly pointed out that all big emitters should take their responsibilities. Russia's approach was in this way because of the fact that it had become apparent that limiting global temperature increase and retarding the climate change was not attainable without restraining the rising emissions of developing countries.¹ Indeed, the argument of including all big emitters with commitments in the system has become Russia's fundamental priority for the coming negotiation sessions.

When the magnitude of Russia's present and future emissions together with its typical governance and reindustrialization processes are considered it is obvious that Russia's actions are expected to have a central role in shaping the future efforts to fight

¹ Liliana B. Andonova and Asia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", *Climate Policy*, 2012, Vol. 12, No.5, p. 616.

climate change.² As a result, identifying the circumstances for a potentially 'positive' or 'obstructionist' role for Russia in climate negotiations is relevant for policy setting.³ Based on this advantage, Russia utilized climate cooperation to restrain critics and to demonstrate constructive foreign policy engagement, whilst simultaneously keeping away itself from burdening.⁴

On the other hand after the failure of Copenhagen efforts to conclude a new international climate change regime for the post 2012 period, where Russia had acted in a very constructivist way, the motivation drooped globally. It reconciled in Durban to end up with a new regime for post 2020 while a second commitment period for Kyoto determined in between. Russia reaffirmed its basic argument which called for an inclusive regime bringing about commitments for both developed and developing countries and it rejected to take quantified commitments in the second commitment period of Kyoto because no developing country party accepted to do so. The question how Russia settled its climate policies have been extensively discussed in the literature. For instance; Nikitina Elena⁵, Daniel Dudek et al.⁶, Laura A. Henry and Lisa McIntosh Sundstrom⁷ and, Nicholas Howarth and Andrew Foxall⁸ discussed the international climate change policy making processes for Russia before and after Kyoto Protocol.

² Ian Bailey and Hugh Compston, 'Introduction', in *Feeling the Heat: The Politics of Climate Policy in Rapidly Industrializing Countries*, edited by Ian Bailey and Hugh Compston, 2012, Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, p.4.

³ Liliana B. Andonova and Asia Alexieva, 'Continuity and change in Russia's climate negotiations position and strategy', p. 615.

⁴ Liliana B. Andonova and Asia Alexieva, 'Continuity and change in Russia's climate negotiations position and strategy', p. 623.

⁵ Nikitina Elena, 'Russia: climate policy formation and Implementation during the 1990s', *Climate Policy*, 2001, Vol. 1, No.3, p. 289-308.

⁶ Daniel J. Dudek, Alexander A. Golub, and Elena B. Strukova, 'Economics of the Kyoto Protocol for Russia', *Climate Policy*, 2004, Vol. 4, p.129-142.

⁷ Laura A. Henry and Lisa McIntosh Sundstrom, 'Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image', *Global Environmental Politics*, 2007, Vol. 7, p. 47-69.

Nikitina Elena analyzed Russia in terms of climate policy management during 1990s and underlined the fact that at the beginning of 1990s climate policy development was slow in the country but accelerated in the end of the decade with the momentum of UNFCCC and Kyoto Protocol.⁹ She pointed out how the Kyoto Protocol and its flexibility mechanisms were a turning point for Russian policy makers.¹⁰ Furthermore, she argued that national climate policy was affected by the transition period and there was a gap between, despite contracting, climate policy objectives and realization of them.¹¹ Her findings were crucial in the sense that how the transition period led to failures in the face of implementation of climate policies in the country.

Daniel Dudek et al. undertook a very comprehensive analysis on the economics of Kyoto Protocol for Russia and concluded that "the probability of Russia exceeding its Kyoto emissions budget is essentially zero".¹² Moreover, they argued about the gains for Russia from mitigation policies initiated due to the Kyoto Protocol and suggested that Russia should ratify it.¹³

Laura A. Henry and Lisa McIntosh Sundstrom made a series of evaluations after the ratification of Kyoto Protocol and ended up with saying that ratification decision was made so as to improve the international image of the country as well as to stop

⁸ Nicholas Howarth and Andrew Foxall, "Economics and politics of Climate Change in Russia", in *Feeling the Heat- The Politics of Climate Policy in Rapidly Industrializing Countries*, edited by Ian Bailey and Hugh Compston, Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2012, p. 149-174.

⁹ Nikitina Elena, "Russia: climate policy formation and Implementation during the 1990s", *Climate Policy*, 2001, Vol. 1, No.3, p. 289-308.

¹⁰ Ibid.

¹¹ Ibid.

¹² Daniel J. Dudek, Alexander A. Golub, and Elena B.Strukova, "Economics of the Kyoto Protocol for Russia", *Climate Policy*, 2004, Vol. 4, p.129.

¹³ Ibid.

undesirable consequences of climate change.¹⁴ Moreover they claimed that Russia's consideration for multiple foreign policy objectives was in line with the argument of neoliberal institutionalists.¹⁵ Finally, they proposed that "Russia's rhetoric about its international role as an environmental steward will begin to positively influence its behavior in future efforts to address climate change."¹⁶

Nicholas Howarth and Andrew Foxall also widely discussed the economic gains from the ratification of Kyoto Protocol as well as its contribution to the international image of Russia.¹⁷

One common interesting point they all underlined was the Russia's motive to utilize international climate change politics as foreign policy tools.

However, Russia did not follow a stable position in the climate change negotiations as Andonova and Alexieva highlighted.¹⁸ Hence, it is of great curiosity to track the path for Russia in post 2020 climate change regime negotiations when its extensive emissions are considered. By the same token Elena Lioubimtseva argues that "Russia's commitments would be essential for any future international agreement with binding emission targets."¹⁹ Maria Sharmina et al. propose that Russia might prefer to

¹⁴ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image", *Global Environmental Politics*, 2007, Vol. 7, p. 65.

¹⁵ Ibid, 66.

¹⁶ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image", *Global Environmental Politics*, 2007, Vol. 7, p. 66.

¹⁷ Nicholas Howarth and Andrew Foxall, "Economics and politics of Climate Change in Russia", in *Feeling the Heat- The Politics of Climate Policy in Rapidly Industrializing Countries*, edited by Ian Bailey and Hugh Compston, Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2012, p. 149-174.

¹⁸ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p. 614-629.

¹⁹ Elena Lioubimtseva, "Russia's Role in the Post-2012 Climate Change Policy: Key Contradictions and Uncertainties", *Forum on Public Policy*, 2010, Vol 3, p. 1.

adopt 'weak' actions or to lead to a new low carbon future.²⁰ Despite admitting its essential role for the new climate change regime, Alexey Kokorin and Anna Korppo claim that Russia's position is on 'stand-by' mode,²¹ besides evaluation of Liliana B. Andonova and Assia Alexieva for negotiation stance of Russia as 'relatively passive'²².

Contrary to the views of scholars who consider Russia's position on climate change as low profile, this thesis argues that Russia seeks to play a decisive role in the formation of new regime on climate change since it is able to assume new responsibilities and able to adopt its economic structure to a low carbon emission model.

This thesis is structured in the following manner within five main parts to discuss this argument. Initially, the historical background for the international climate change regime is provided in Chapter 2 in order to underline how the compromise on climate change problem has evolved and attracted international response. In order for delivering Russian climate change policy prospects, both domestic and international policies of the country should be addressed properly. As a means of highlighting domestic policy outlook of the country, the Chapter 3 describes the key economic, energy and Greenhousegases Emission (GHGs) profiles of Russia together with policy developments related to climate change. Subsequently, Russia's role in international climate change regime and key developments for the country discussed in the Chapter 4. Following this, in the Chapter 5, leading factors that shape the climate change negotiation strategies of Russia together with the priorities of the country are pointed out in order to disclose the prospects for Russia in international climate change negotiations.

²⁰ Maria Sharmina, Kevin Anderson and Alice Bows-Larkin, 'Climate Change Regional Review: Russia', Wiley Interdisciplinary Reviews: Climate Change, *October 2013*, Vol. 4, No. 5, p. 373- 396.

²¹ Alexey Kokorin and Anna Korppo, 'Russia's Post Kyoto Climate Policy- Real Action or Merely Window Dressing', *FNI Climate Policy Perspectives*, May 2013, Vol. 10, p. 1-8.

²² Liliana B. Andonova and Assia Alexieva, 'Continuity and change in Russia's climate negotiations position and strategy', p. 17

CHAPTER 2

INTERNATIONAL CLIMATE CHANGE REGIME

2.1 Introduction

In the first chapter of this thesis, relevant historical background and literature review for climate change regime are provided. Initially, climate change problem is discussed in terms of its scientific basis and different accounts from various organizations for the definition are provided. Following this definitive framing, how environmental issues specifically climate change are handled within international relations literature is discussed by specifying different theoretical approaches for it. Afterwards, the early international responses to climate change problem and subsequently formed United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol are discussed in detail by analyzing their objectives, context and relevant bodies. Finally, the stage of international climate change negotiations for the Post- Kyoto climate change regime which will be applicable after 2020 are briefly evaluated.

2.2 The Climate Change Problem in Science and International Relations

Climate Change, the hottest topic of the environmental problems, is accepted as one of the most severe and challenging issues that the international community encounters. It was entitled as "the major, overriding environmental issue of our time, and the single greatest challenge facing environmental regulators" as stated by United

Nations Secretary General Ban-ki-Moon.²³ The climate change problem, from its technical side, is an issue related to greenhouse gases (GHGs) in the atmosphere.

The natural greenhouse effect, a vital process for life on world, is interrupted by human beings in the form of increasing emissions of GHGs as a result of the usage of fossil fuels as well as deforestation and land-use changes by reducing the amount of CO₂ that is naturally captivated by such carbon sinks.

The human-made chemicals such as hydro fluorocarbons (HFCs), per fluorocarbons (PFCs), sulphur hexafluoride (SF₆) and other fluorocarbon gases are other factors to change the mixture of GHGs. The greater concentration of GHGs in the atmosphere causes an enriched greenhouse effect, leading more heat and increasing temperatures of the ground.²⁴ More specifically, according to Intergovernmental Panel on Climate Change (IPCC) Working Group I Fifth Assessment Report (2013);

warming of the climate is unequivocal and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed (figure 1), the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.²⁵

²³ UN (United Nations), *Background Note: UN4U 2011 Ways the UN Makes a Difference in Our Everyday Life* (accessed on 14/03/2014)
http://visit.un.org/wcm/webdav/site/visitors/shared/documents/pdfs/BG%20Note_3_Climate%20Change_final.pdf

²⁴ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, Cambridge University Press, Cambridge, 2004, p.20.

²⁵ IPCC (Intergovernmental Panel Climate Change), *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. TF. Stocker, D Qin, GK Plattner, MMB Tignor, SK Allen, C Boschung, A Nauels, Y Xia, V. Bex, PM Midgley Cambridge, UK: Cambridge Univ. Press, 2013, p.4

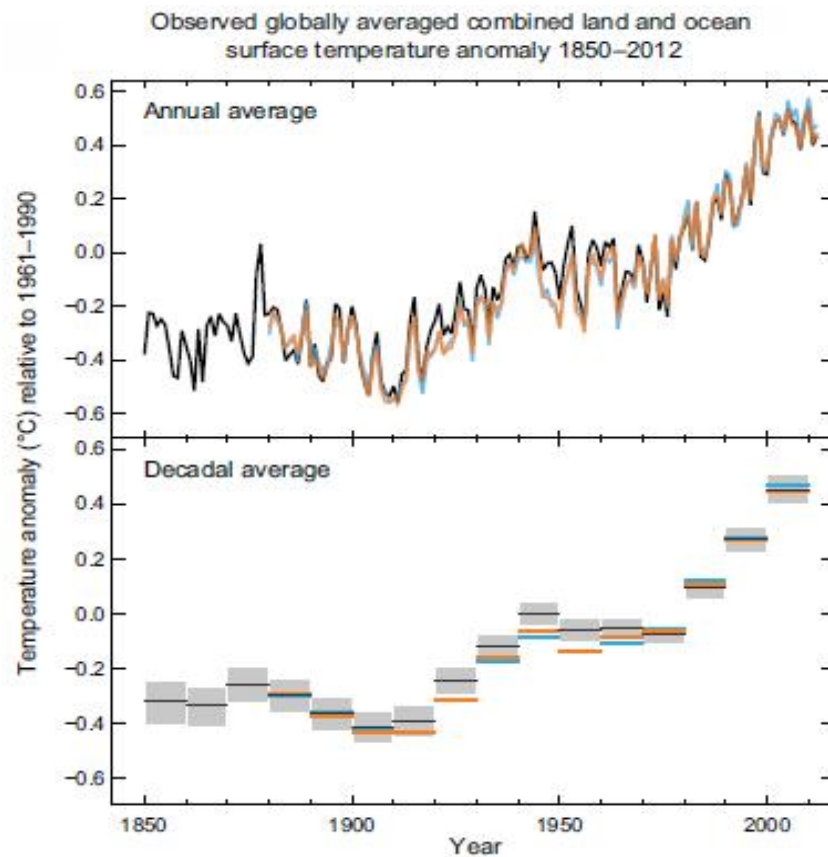


Figure 1: Observed globally averaged combined land ocean surface temperature anomaly 1850- 2012

Source: Climate Change 2013 Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate. Figure SPM 1. IPCC, Geneva, Switzerland.

Indeed, each decade in most recent three decades has been consecutively warmer than any preceding decade since 1850.²⁶ Besides, the atmospheric

²⁶ IPCC, *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, p.4

concentrations of carbon dioxide (CO₂), methane, and nitrous oxide have increased to exceptional levels in the last 800,000 years, to exemplify

the atmospheric concentrations of the greenhouse gases, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) have all increased since 1750 due to human activity. In 2011 the concentrations of these greenhouse gases were 391 ppm²⁷, 1803 ppb, and 324 ppb, and exceeded the pre-industrial levels by about 40%, 150%, and 20%, respectively.²⁸

For instance, the sharp increase in the atmospheric concentration of CO₂ since mid.1950s is presented below. (Figure 2)

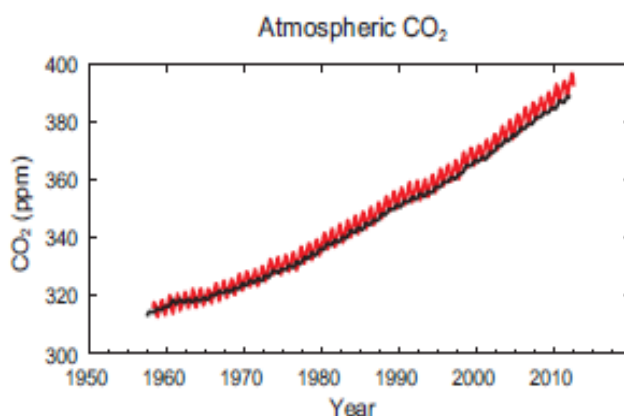


Figure 2 : Atmospheric CO₂

Source: Climate Change 2013 Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate. Figure SPM 4. IPCC, Geneva, Switzerland.

²⁷ ppm (parts per million) or ppb (parts per billion, 1 billion = 1,000 million) is the ratio of the number of gas molecules to the total number of molecules of dry air. For example, 300 ppm means 300 molecules of a gas per million molecules of dry air (IPCC (Intergovernmental Panel Climate Change), *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, p.11)

²⁸ IPCC, *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, p.11

As a conclusion, global mean surface temperature boosts as a function of cumulative total global CO₂ emissions as observed from various sets of evidences.²⁹

Moreover,

more than half of the observed increase in global average surface temperature from 1951 to 2010 is very likely due to the observed anthropogenic increase in well-mixed greenhouse gases (WMGHG) concentrations. WMGHGs contributed a global mean surface warming likely to be between 0.5°C and 1.3°C over the period between 1951 and 2010, with the contributions from other anthropogenic forcings likely to be between 0.6°C and 0.1°C and from natural forcings likely to be between 0.1°C and 0.1°C.³⁰

The increase in global CO₂ emissions was in a parallel fashion to increased demand for energy after the industrial revolution. Especially in the last 40 years in order to meet the increased demand, total primary energy supply more than doubled mostly relying on still fossil fuels which currently accounts for over 80% of world energy supply as it was the case 40 years ago in spite of the growth of non-fossil energy such as renewables³¹ With that wide energy usage, CO₂ emissions constitute over 60% of all emissions.³²

Another important point should be highlighted is that as it is seen from Figure 3; the coal combustion has produced the biggest amount of CO₂ emissions after the year 2001 despite the fact that oil has the largest share in energy supply. (Figure 3)

²⁹ Ibid, p.12

³⁰ IPCC, *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, p.66

³¹ IEA (International Energy Agency), *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, 2013, Paris, p. 8.

³² IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p. 8.

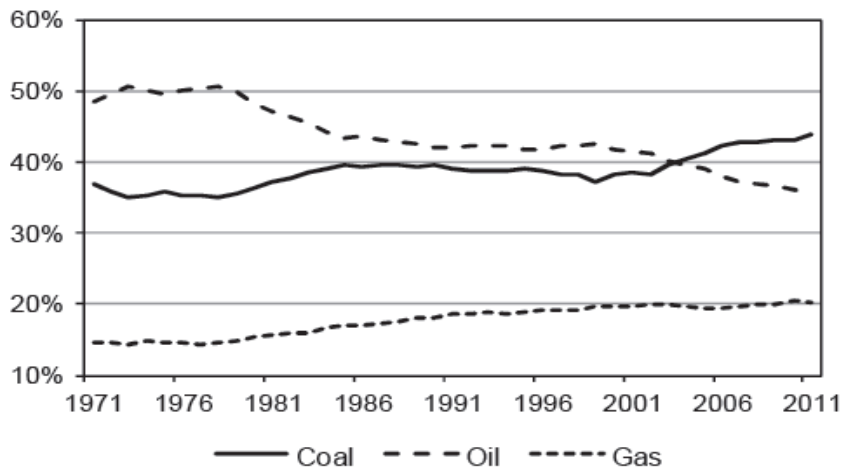


Figure 3: Fuel Shares in Global CO₂ emissions

Source: IEA, *Global CO₂ Emissions from Fuel Combustion- Highlights 2013*, p. 9

International Energy Agency (IEA) discloses the projections for primary energy demand and projections for global CO₂ emissions in yearly prepared World Energy Outlook (WEO) reports. Global CO₂ emissions are estimated under different set of scenarios in the WEO reports based on the methodological guidelines of IPCC. Three scenarios disclosed in the WEO are "Current Policies Scenario", "New Policies Scenario" and "450 Scenario".³³

The New Policies Scenario as well as setting different assumptions for Gross Domestic Product (GDP) and population growth, energy and carbon price figures and fossil-fuel subsidies and technology; incorporates "the policies and measures that affect energy markets and that had been adopted as of mid-2013" together with taking account of "other relevant commitments that have been announced".³⁴

³³ IEA, *World Energy Outlook 2013*, Paris: OECD/IEA, p.36-37.

³⁴ IEA, *World Energy Outlook 2013*, p.36.

Whereas Current Policies Scenario takes into account only those policies and measures affects energy markets that were formally enacted as of mid-2013.³⁵ To put it differently, it portrays a future where governments do not implement any recent commitments to be backed-up by legislation or introduce other new policies bearing on the energy sector.³⁶ Moreover, the scenario is considered to present a baseline picture of how global energy markets would evolve if established trends in energy demand and supply continue unabated.³⁷

As for the 450 Scenario, it illustrates what is needed to set the global energy sector on a course compatible with a near 50 % chance of limiting the long-term increase in the average global temperature to two degrees Celsius (2°C).³⁸ Accordingly, the increase in global CO₂ emissions from fossil fuel combustion is projected to increase but with a slower rate by amounting to 37.2 GtCO₂ by 2035 according to New Policies Scenario of World Energy Outlook (WEO 2013). This is an improvement as compared to WEO Current Policies Scenario but still is expected to lead to a long term temperature increase of 3.6 °C, which is more than the 2°C target of UNFCCC.³⁹

As a result, only 450 Scenario illustrates an energy pathway compatible with a 50% chance of limiting the long-term increase in average global temperature to 2°C. (Figure 4)

³⁵ Ibid.

³⁶ IEA, *World Energy Outlook 2013*, p.36.

³⁷ Ibid.

³⁸ Ibid.

³⁹ IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p.9

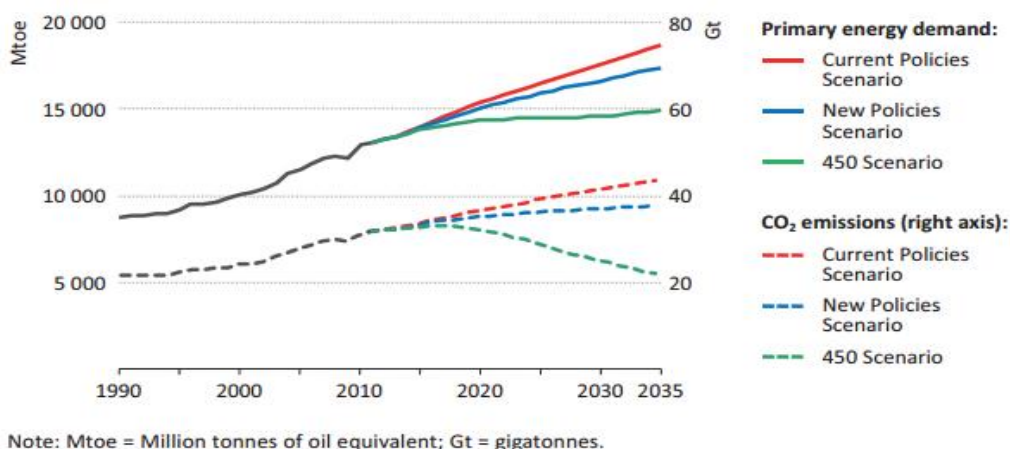


Figure 4: World primary energy demand and related CO₂ emissions by scenario

Source: *World Energy Outlook 2013*, p. 57.

Nevertheless, the limiting the increase in GHGs emissions in the atmosphere is crucial to combat with the anthropogenic climate change. IEA stressed the urgency of the especially the limitation of CO₂ emissions as follows:

given the long lifetime of CO₂ in the atmosphere, stabilizing concentrations of greenhouse gases at any level would require large reductions of global CO₂ emissions from current levels. The lower the chosen level for stabilization, the sooner the decline in global CO₂ emissions would need to begin, or the deeper the emission reduction would need to be over time.⁴⁰

After a discussion of the scientific dimension of climate change, the official definitions of the phenomenon, which address the problem with emphasizing the different aspects, can be reviewed. In this respect, there are numerous definitions of climate change used by different institutions in varying degrees of specificity. For instance, it is termed by IEA as “the change in climate (i.e. regional temperature, precipitation, extreme weather, etc.) caused by increase in the greenhouse effect” in the

⁴⁰ IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p. 7.

simplest form.⁴¹ On the other hand United Nations Framework Convention on Climate Change (UNFCCC) Article 1 Paragraph 2 defines it as

a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.⁴²

While Intergovernmental Panel on Climate Change (IPCC) asserts that

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.⁴³

Indeed, this definition is different from the definition of the United Nations Framework Convention on Climate Change (UNFCCC) cited above, which attributes climate change either directly or indirectly to human activity that changes the structure of the global atmosphere.⁴⁴ Hence, IPCC definition does not attribute climate change only to anthropogenic (human-induced) factors that affect the atmospheric concentration of GHGs.

Climate change is a rather significant problem since the potential worldwide impacts of it could be disastrous. The weather is expected to be more unstable. While more exhaustive droughts might enforce water shortages, more frequent heavy rainfalls could put regions in a risk that are already inclined to flooding.⁴⁵ Diseases might spread

⁴¹ IEA, "Climate Change", *International Energy Agency*, (Accessed on 12/06/2014) <http://www.iea.org/topics/climatechange/>.

⁴² UNFCCC (United Nations Framework Convention on Climate Change), "United Nations Framework Convention on Climate Change". (Accessed on 12/06/2014) <http://www.unfccc.int>

⁴³ IPCC, "Observed Changes in Climate and Their Effects." *AR4 SYR Synthesis Report*, (Accessed on 12/06/2014). http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html.

⁴⁴ Ibid. (http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html)

⁴⁵ Paul G Harris, *The Glacial Politics of Climate Change*, *Cambridge Review of International Affairs*, 2008, Vol.21, No.4, p. 456

in a warmer weather and could lengthen their geographical scopes and the agricultural yields could suffer from warming.⁴⁶ Moreover, rise in sea level hampers lowland islands and coastal areas through larger seaside erosion, periodic blizzard surges and the percolation of salt water into irrigation systems and drinking water.⁴⁷ Nonetheless, the human-induced climate change has been accepted as a problem of the future until recently.⁴⁸ Yet, the adverse impacts of climate change on natural ecosystems and on human society and economies lead the way of thinking that climate change is closely related to most economic activity in the sense it links Earth systems with human systems.⁴⁹ Thus, taking into account of the adverse impacts of climate change on natural ecosystems and on society and economies, it has become a significant issue at international arena and several attempts have been done to tackle with the adverse impacts of climate change.

Environment has been a very attractive topic for International Relations (IR) scholars for the last 40 years especially after Stockholm Conference -(The United Nations Conference on the Human Environment) (UNCHE))- in 1972. From the perspective of IR academia, works purely on international politics and transboundary environmental problems began to appear in the 1970s.⁵⁰

⁴⁶ Ibid.

⁴⁷ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, Cambridge University Press, Cambridge, 2004, p.22.; Paul G Haris, *The Glacial Politics of Climate Change*, p.456; European Commission, *Climate Action* (accessed on 13/02/2014 (http://ec.europa.eu/clima/policies/brief/consequences/index_en.htm))

⁴⁸ Paul G Haris, *The Glacial Politics of Climate Change*, p. 456.

⁴⁹ IPCC, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Ed.* Paris: IPCC Secretariat, 2007, p. 26.

⁵⁰ John Vogler, Introduction. *The environment in International Relations: legacies and contentions* in *The Environment and International Relations* ed. John Vogler and Mark F. Imber, 1996, Routledge: London, p.2.

In fact, the 'Tragedy of Commons' of Garrett Hardin (1968) might be evaluated as the essential metaphor for the debate of environmental issues in the literature including climate change.⁵¹ Although countries have varying degree of contribution to global GHGs emissions, their vulnerability is not parallel to the degree of their emissions. In other words extreme weather conditions could be experienced in some countries which contributed almost none to the global GHGs emissions making, the solution of the problem quite difficult. Moreover, the efforts of limited number of countries are not enough to fix the problem. From these aspects of the climate change problem, the notion of 'Tragedy of Commons' of Garrett Hardin asserting that problems related to exploitation of common resources do not have clear cut technical solutions⁵² is relevant.

The discussions related to climate change in IR mounted up after the Rio Earth Summit in its official name United Nations Conference on Environment and Development (UNCED) held in 1992. The subject of climate change was assessed in the literature in two broad aspects: collective action and security.⁵³ The security school as Matthew Paterson argues builds upon the discourse of realism.⁵⁴ On the other hand, idealism booming in after the World War I passed a fundamentally positive and liberal approach to the task of reforming the international structure through the construction of cooperative institutions and the development of international law.⁵⁵ The reaction of academic IR at the beginning to the growing problems of climate change unavoidably presents this intellectual legacy.⁵⁶

⁵¹ Matthew Paterson, 'Green Politics' in Scott Burchill, Andrew Linklater et al, *Theories of International Relations*, 2009, 4rd edition, Palgrave: London, p. 343.

⁵² Garrett Hardin, 'The Tragedy of the Commons'. *Science*, 1968, Vol. 162, p. 1243-1248.

⁵³ Matthew Paterson, 'Green Politics', p.343.

⁵⁴ *Ibid*, p.344.

⁵⁵ John Vogler, 'Introduction. The environment in International Relations: legacies and contentions', p.1.

⁵⁶ *Ibid*.

However, the most fruitful discussions on climate change came from the liberal institutionalist school focusing on international regimes and global governance concepts. They claimed that the potential for cooperation was much more than Garrett Hardin and other realists assumed and the international organizations were of great importance to build the spirit of cooperation.⁵⁷

Realist arguments focused on environmental issues rather than taking climate change as a specific and new research area. So, let alone climate change even for the environment there is not much a large room in classical realism.⁵⁸ As to the neorealist point of view on climate change, we see that even there is some improvement at least to see the climate change as a separate topic, still sovereign states and the distribution of power among themselves stay at the heart of the analysis.⁵⁹ Moreover, neorealists do not accept the effectiveness of international organizations rather insist on the distribution of power where they argue that a hegemonic leader is required.⁶⁰ On the other hand neoclassical realists do not accept any possibility of cooperation as compared to neorealist scholars accepting the existence of a limited degree of cooperation.⁶¹ Most of the realist debate related to climate change focused on the notion of security. It is seen that actually, environmental threats argued as not to be analytically equivalent to organized violence the traditional threat to security.⁶² The connection between environmental matters and the enduring concerns of IR can be outlined most explicitly in the current debate over whether traditional concepts of national security, involving

⁵⁷ Matthew Paterson, "Green Politics", p. 348.

⁵⁸ John Vogler, "Introduction. The environment in International Relations: legacies and contentions", p. 3.

⁵⁹ Ibid, 11

⁶⁰ John Vogler, "Introduction. The environment in International Relations: legacies and contentions", p. 9

⁶¹ Matthew Paterson, "Green Politics", p. 348.

⁶² Daniel Deudney, "The case against linking environmental degradation and national security", *Millennium: Journal of International Studies*, 1990, Vol. 19, No.3, p.461-476

armed threats, should be expanded to comprehend a new range of environmental threats to human well-being.⁶³

Although both realist and liberal approaches have completely different points of views to climate change, neither of them attempts to change the framework of the existing political, social, economic and normative structures of world politics and they seek to reorganize environmental problems within those structures whereas greens political thought, a variation of critical theory, considers those structures as the main origin of the environmental crisis and therefore assert that they are structures which need to be challenged and transcended.⁶⁴

In other words, mainstream IR theory, as we know, has been on the direction of positivism. It has formed its own image as a 'scientific' discipline, accepting and advocating the thesis that reality can be understood through systematic empirical observation. Many ecologists, in contrast, feel that this positivist conviction has been at the root of modern environmental crises.⁶⁵ Some of those scholars are could be written down as Robyn Eckersley, Fritjof Capra et al., Andrew Dobson, and Eric Laferriere and Peter E. Scoett.⁶⁶ Their common point of view is that they argue for adoption of an ecocentric approach rather than an anthropocentric one. However, the current stage of international climate change regime could be accounted for best by the liberal institutionalists as pointed out before owing to their discussions for cooperation under anarchic international arena when seeking absolute gains.

⁶³ John Vogler, 'Introduction. The environment in International Relations: legacies and contentions', p. 2.

⁶⁴ Ibid, p. 3.

⁶⁵ Eric Laferriere and Peter E. Scoett, 'International Relations Theory and Ecological Thought', 1999, Routledge: London, p. 18.

⁶⁶ For further details see: Robyn Eckersley, *Environmentalism and Political Theory: Towards an Ecocentric Approach*, 1992, S.I.: UCL; Fritjof Capra, Charlene Spretnak, and Wulf-Rüdiger Lutz. *Green Politics: The Global Promise*. 1984, New York: Dutton; Eric Laferriere and Peter E. Scoett, 'International Relations Theory and Ecological Thought', 1999, Routledge: London; Andrew Dobson, *Green Political Thought*. 1995, London: Routledge.

As a result, the attractiveness of climate change as a discussion issue in the context of IR is expected to continue in the coming period when the upcoming negotiation rounds for constructing climate change regime in post- Kyoto period after 2020.

2.3 Early International Responses to Climate Change Problem

It was the first time in 1972 with Stockholm Conference (UNCHE) that the need for ða common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment⁶⁷ was put on the global agenda. Environmental awareness in the international community arose especially after 1972 UNCHE (Stockholm Conference). In the period of 1972-1989, a number of multilateral environmental agreements were signed on issues ranging from endangered species, conservation, wetlands and for the problem of stratospheric ozone depletion. Nevertheless, none of these agreements specifically dealt with climate change.

However, 1979 First World Climate Conference could be thought as the first international platform specifically dedicated to climate change issues. Following the Conference, climate change took greater attention at the international level. For instance, United Nations (UN) General Assembly addressed the issue and adopted resolution 43/53 which affirms that climate change was ða common concern of mankind, as the first official reaction of UN for the climate change.⁶⁸ Another important consequence of the Climate Conference was that a scientific research program was created, which was the first step in the formation of the IPCC in 1988. IPCC was established in order to ðassess the scientific, technical and socio-economic

⁶⁷ UNEP (United Nations Environment Programme), Declaration of the United Nations Conference on the Human Environment. (accessed on 15/02/2014)
(<http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503>)

⁶⁸ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p.22.

information relevant for the understanding of the risk of human-induced climate change.⁶⁹

Thereafter, the first assessment report of IPCC was launched in 1990, which became a basis for the Ministerial Declaration⁷⁰ delivered at the end of the Second World Climate Conference in 1990. These events together provided spur to the early concerns on climate change among governments. Scientific estimation and appraisals from the IPCC and other scientific works granted the motivation for international agreements to take care of the climate change.⁷¹ As a result, the UN General Assembly founded the Intergovernmental Negotiating Committee (INC) for a Framework Convention on Climate Change in December 1990. The committee aimed to negotiate a framework convention that would be a base for ensuing international protocols related to climate change.⁷² In order to realize this aim, the INC made five successive negotiation sessions in 1991 and 1992.⁷³

2.4 International Climate Change Regime: UNFCCC and Kyoto Protocol

Thanks to the momentum in those formal negotiations, Framework Convention on Climate Change was signed at the UNCED in Rio de Janeiro in June 1992. Hence, the first stage of climate change regime formation was very rapidly completed in Rio at

⁶⁹ IPCC, "About IPCC", (Accessed on 2/06/2014), <http://www.ipcc.ch/about/about.htm>.

⁷⁰ UNFCCC, "Protection of Global Climate for Present and Future Generations of Mankind (A/45/696/Add.1)", (accessed on 22/06/2014), <http://unfccc.int/resource/docs/1990/un/eng/a45696a1.pdf>

⁷¹ Paul G Haris, "The Glacial Politics of Climate Change", p. 459.

⁷² Paul G Haris, "The Glacial Politics of Climate Change", p. 459.

⁷³ The Five Interstate Negotiation Sessions are as follows: 1. Chantilly-USA (February 1991), 2. Geneva-Switzerland (June 1991), 3. Nairobi-Kenya (September 1991), 4. Geneva- Switzerland (December 1991), 5. New York (February 1992). For further details please see: Matthew Paterson, *Global Warming and Global Politics*, Routledge, 1996, London, p. 49-71.

the UNCED.⁷⁴ Yet, negotiations continued under the INC till the first meeting of Conference of Parties (COP 1) to UNFCCC in 1995 in Berlin since UNFCCC could enter into force only in 1994. The United Nations Framework Convention on Climate Change, one of the three Rio Conventions⁷⁵ officially opened for signature at UNCED in June 1992 and entered into force on 21 March 1994.⁷⁶ The primary objective of the Convention was set in Article 2 as

stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.⁷⁷

The objective of the Convention implies the belief in the common action to tackle with the climate change. Indeed, most prominent principles of the Convention stated in Article 3 giving special emphasis to “common but differentiated responsibilities and respective capacities”⁷⁸ of Parties and “specific needs and special circumstances”⁷⁹ of developing country Parties constitute the base for the differentiation of the responsibilities among Parties for taking action to combat the climate change.

⁷⁴ Benito Müller, *The Global Climate Change Regime: Taking Stock and Looking Ahead*, Yearbook of International Co-operation and Development, 2002/03, p.29. (Accessed on 15/02/2014) http://www.fni.no/ybiced/02_02_muller.pdf

⁷⁵ The other Rio Conventions are Convention on Biological Diversity (CBD) and United Nations Convention Combat Desertification (UNCCD)

⁷⁶ For further details on Rio Conventions please see UNFCCC, “Introduction to Convention”, (accessed on 17/02/2014), http://unfccc.int/essential_background/convention/items/6036.php.

⁷⁷ UNFCCC, “United Nations Convention on Climate Change (FCCC/INFORMAL/84)”, 1992, p.9 (accessed on 17/02/2014) http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

⁷⁸ See Article 3 of the UNFCCC for further details. (accessed on 17/02/2014) http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

⁷⁹ Ibid.

195 countries, called as Parties to the Convention, ratified the Convention. These Parties to the Convention are divided into three groups: Annex I (Organization of Economic Cooperation and Development (OECD) countries and Economies in Transition (EITs), Annex II (OECD countries), and non-Annex I (developing countries). The Convention brings about different obligations for these three groups. For instance, at the time of signature industrialized countries were seen as the source of most past and current greenhouse gas emissions and they were expected to do the most to cut emissions on home ground⁸⁰. Therefore, Annex I countries aimed to cut down their emissions to 1990 levels by 2000⁸¹ whereas Annex II countries urged to provide financial assistance and to promote technology transfer to developing country parties.⁸² Besides, all parties to the Convention had the reporting obligation. Nonetheless, at COP 1 in Berlin in 1995, the Parties stated that the specific commitments for Annex I Parties under the Convention were not adequate and initiated negotiations on a protocol or another legal instrument to be finished by COP 3, which eventuated in the adoption of the Kyoto Protocol.⁸³ Kyoto Protocol, being opened to signature in 1997 and entered into force 2005, as an international agreement linked to the UNFCCC, commits its Parties by establishing internationally binding emission reduction targets.⁸⁴ While doing this, the Kyoto Protocol diagnoses that developed countries are mainly accountable for the existing high levels of GHGs emissions in the atmosphere due to more than 150 years of industrial activity. Therefore, the Protocol puts heavier burden on developed

⁸⁰ UNFCCC, "United Nations Convention on Climate Change (FCCC/INFORMAL/84)", 1992, (accessed on 17/02/2014), http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

⁸¹ Although United States and Turkey are included in Annex I, they did not have quantified emission reduction targets since when the Convention entered into force Turkey was not a party to the Convention.

⁸² UNFCCC, "United Nations Convention on Climate Change (FCCC/INFORMAL/84)"

⁸³ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p.27.

⁸⁴ UNFCCC, "Kyoto Protocol", (accessed on 18/02/2014) http://unfccc.int/kyoto_protocol/items/2830.php.

countries under the principle of "common but differentiated responsibilities."⁸⁵ Indeed, there is almost no obligation for non-Annex I countries in the context of international climate change regime in spite of their increasing importance for the climate change problem.

In this context, the comprehensive rules for the implementation of the Protocol were agreed upon at COP 7 in Marrakesh, Morocco, in 2001, and are known as the "Marrakesh Accords." The first commitment period of the Protocol began in 2008 and finalized in 2012.⁸⁶ Annex I Countries of the Convention that are listed in Annex B of the Protocol accepted to take individual emission targets summing to a total reduction of 5% with targets vary from -68% to +10%.⁸⁷ Emission of GHGs included to be reduced or limited are determined to be CO₂, CH₄, N₂O, HFCs, PFCs, SF₆.⁸⁸

In practice, among Annex I Parties only United States and Turkey did not take binding commitment because of the fact that United States did not ratify the Protocol and Turkey was not a Party even to the Convention as of 1997, thus, it was not included in Annex B among the Annex I countries taking quantified emission targets. Other issues covered in the Protocol are flexibility mechanisms, namely joint implementation, Clean Development Mechanism (CDM) and emissions trading, firmer reporting and review procedures for Annex I Parties, compliance system to report the cases of non-compliance with the Protocol, and systematic reviews of commitments.⁸⁹

On the other hand, the second commitment period of the Protocol commenced on 1 January 2013 with the adoption of Doha Amendment to the Kyoto Protocol and is agreed to continue till 31 December 2013. Moreover, in the second commitment period,

⁸⁵ Ibid.

⁸⁶ UNFCCC, "Kyoto Protocol",

⁸⁷ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p.25.

⁸⁸ Ibid.

⁸⁹ Ibid.

Parties committed to decrease GHGs emissions by at least 18 percent below 1990 level and a revised list of GHGs agreed upon to be reported.⁹⁰ Nevertheless, the number of parties having quantified emission targets in the second phase of the Protocol was decreased. Russian Federation, New Zealand, Japan and Canada did not take quantified emission limitation or reduction commitment.⁹¹ Canada had already explained her withdrawal from Kyoto after COP 17 in Durban, South Africa in 2011 which became in effect in December 2012.⁹² Since the ratification rule for the second commitment period of Kyoto Protocol, requiring the ratification by the two-thirds of parties, has not been completed, the Amendment has not been in force yet. However it should be noted that either first commitment period targets of Kyoto Protocol or the second commitment targets are not sufficient to sustain the 2°C goal voiced by UNFCCC based on IPCC reports.

There are a number of institutions for decision making and negotiation processes under the Convention and the Protocol. The high level decision making body of the Convention, where all Parties to the Convention are represented, is named as Conference of Parties (COP). COP assesses the implementation of the Convention as well as makes decisions needed to assure the effective implementation of the Convention including institutional and administrative arrangements.⁹³

Additionally, the COP reviews the national communications and emission inventories submitted by Parties and upon the review process the COP evaluates the impacts of the measures taken by Parties and the advancement achieved in realizing the

⁹⁰ UNFCCC, "Kyoto Protocol",

⁹¹ UNFCCC, "Doha Amendment to Kyoto Protocol (C.N.718.2012)", (accessed on 18/02/2014), <https://treaties.un.org/doc/Treaties/2012/12/20121217%2011-40%20AM/CN.718.2012.pdf>,

⁹² UNFCCC, "Canada: Withdrawal (C.N.796.2011.TREATIES)", (Accessed on 18/02/2014) (http://unfccc.int/files/kyoto_protocol/background/application/pdf/canada.pdf)

⁹³ UNFCCC, "Bodies", (accessed on 17/02/2014), <http://unfccc.int/bodies/items/6241.php>,

eventual objective of the Convention.⁹⁴ Unless the Parties decide otherwise, the meeting frequency of the COP is yearly.⁹⁵

On the other hand, the other supreme institution for the Convention is Conference of the Parties Serving as the meeting of the Parties to the Kyoto Protocol (CMP), which is a platform where all Parties to the Kyoto Protocol are represented while the states that are not Parties take place as observers. CMP assesses the implementation of the Kyoto Protocol and adopt the course of actions to promote its effective implementation in its annual meetings.⁹⁶ The first CMP meeting was held along with the eleventh session of Conference of Parties (COP 11) in Montreal, Canada in December 2005.

There are two permanent bodies under the Convention: the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI), which traditionally meet twice a year.

To begin with the SBSTA, its basic duty is to assist the work of the COP and the CMP by providing appropriate information and advice on scientific and technological issues. To put more detailed terms, the SBSTA works on

impacts, vulnerability and adaptation to climate change; emissions from deforestation and forest degradation in developing countries; promoting the development and transfer of environmentally-sound technologies; and conducting technical work to improve the guidelines for preparing and reviewing greenhouse gas emission inventories from Annex I Parties.⁹⁷

Moreover, the SBSTA serves as a link between the scientific information presented by expert resources like the IPCC and the policy-oriented needs of the COP.⁹⁸

⁹⁴ UNFCCC, "Conference of Parties", (accessed on 17/02/2014), <http://unfccc.int/bodies/body/6383.php>

⁹⁵ UNFCCC, "Conference of Parties"

⁹⁶ UNFCCC, "Conference of the Parties Serving as the meeting of the Parties to the Kyoto Protocol", (accessed on 17/02/2014), <http://unfccc.int/bodies/body/6397.php>,

⁹⁷ UNFCCC, "Subsidiary Body for Scientific and Technological Advice", (accessed on 17/02/2014), <http://unfccc.int/bodies/body/6399.php>.

⁹⁸ Ibid.

On the other hand, as to the SBI, like the SBSTA, the SBI also supports the work of the COP and the CMP by assessing and reviewing the effective implementation of the Convention and its Kyoto Protocol. The activities of the SBI could change according to the needs of the work program. For example, the SBI presently experiences a transition phase towards a focus on Monitoring, Reviewing and Verifying (MRV) functions with International Assessment and Review (IAR), Nationally Appropriate Mitigation Actions (NAMAs), finance and technology transfer, loss and damage and adaptation finance.⁹⁹

In addition, the SBSTA and the SBI deal with cross-cutting issues together including the areas of capacity building, the vulnerability of developing countries to climate change and response measures, the Kyoto Protocol mechanisms, and crucial political matters such as the whole range of discussions under the Technology Mechanism, the 2013-2015 review and coordination of support for REDD (Reducing Emissions From Deforestation and Forest Degradation) plus.¹⁰⁰

The Global Environment Facility (GEF) could be thought as another institution serving as the financial mechanism for both the Convention and Kyoto Protocol. Moreover, UNFCCC Secretariat serves permanently both the Convention and Kyoto Protocol.¹⁰¹

As a final point, it should be recorded that there is not an agreed rules of procedure that rule the climate change negotiations. As a result of disputes over the voting rule (rule 42), these are not adopted,¹⁰² but utilized at each session, except for the voting rule. However, this ambiguity created a number of problems in the coming

⁹⁹ UNFCCC, "Subsidiary Body for Implementation" (accessed on 17/02/2014), <http://unfccc.int/bodies/body/6406.php>,

¹⁰⁰ Ibid.

¹⁰¹ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p.25

¹⁰² UNFCCC, "Organizational Matters Adoption Of The Rules Of Procedure (FCCC/CP/1996/2)", (Accessed on 12/06/2014), <http://unfccc.int/resource/docs/cop2/02.pdf>.

negotiations for example such as the blockage of Russia the negotiations under the SBI in Bonn in 2012 which will be discussed in a detailed way in chapter 4.

Table 1 : The List of UNFCCC COP and CMP Meetings

DATE	PLACE	COP/CMP Number
11 - 22 November 2013	Warsaw, Poland	COP 19 CMP 9
26 November- 7 December 2012	Doha, Qatar	COP 18 CMP 8
28 November - 9 December 2011	Durban, South Africa	COP 17 CMP 7
29 November- 10 December 2010	Cancun, Mexico	COP 16 CMP 6
7 - 18 December 2009	Copenhagen, Denmark	COP 15 CMP 5
1 - 12 December 2008	Poznan, Poland	COP 14 CMP 4
3 - 14 December 2007	Bali, Indonesia	COP 13 CMP 3
6 - 17 November 2006	Nairobi, Kenya	COP 12 CMP 2
28 November - 9 December 2005	Montreal, Canada	COP 11 CMP 1
6 - 17 December 2004	Buenos Aires, Argentina	COP 10
1 - 12 December 2003	Milan, Italy	COP 9
23 October - 1 November 2002	New Delhi, India	COP 8
29 October- 9 November 2001	Marrakech, Morocco	COP 7
16 - 27 July 2001	Bonn, Germany	COP 6-2
13 - 24 November 2000	The Hague, The Netherlands	COP 6
25 October - 5 November 1999	Bonn, Germany	COP 5
2 - 13 November 1998	Buenos Aires, Argentina	COP 4
1 - 10 December 1997	Kyoto, Japan	COP 3
8-19 July 1996	Geneva, Switzerland	COP 2
28 March - 7 April 1995	Berlin, Germany	COP 1

Source: Adapted from UNFCCC Official Website

The climate change negotiations on various issues accelerated after the Convention entered into force in 1994. Nineteen (19) Conference of Parties (COP) Meetings were held in the period of 1995-2013. (See Table 1)

First Meeting of Conference of Parties (COP 1) took place in Berlin in 1995. One of the most important decisions of COP 1 known as also Berlin Mandate was the course of strengthening the commitments in Article 4.2 (a) and (b) of the Convention by setting quantified restriction and reduction targets within a specific time period.¹⁰³ In other words developed country parties accepted their greater historical responsibilities for the GHGs and global warming and agreed to address the problem in a more concrete way.

In order to realize this aim, negotiations continued in the subsequent year at COP 2 in Geneva, where countries urged for a legally binding protocol with specific targets and schedules for reductions of GHGs emissions by developed parties and Geneva Declaration became a negotiation basis for Kyoto Protocol.¹⁰⁴ Central to these motives, Kyoto Protocol was opened to signature in 1997 at COP 3 after long and exhausting discussions. Kyoto Protocol brought about binding commitments for developed country parties to reduce their GHGs emissions by an average of 5 % below 1990 levels in the period of 2008-2012.¹⁰⁵ In order to facilitate the realization of emission reduction or limitation commitments of developed countries, Kyoto Protocol authorized a number of flexibility mechanisms such as emission trading programs, Joint Implementation (JI) and Clean Development Mechanism (CDM) Projects. To explain in a more detailed way, emission trading programs are the systems where developed countries could buy and sell carbon credits, whereas with Joint Implementation (JI) Projects developed country parties could acquire emission credits by investing in

¹⁰³UNFCCC, "Report Of The Conference Of The Parties On Its First Session, Held At Berlin From 28 March To 7 April 1995 (FCCC/CP/1995/7/Add.1)", (Accessed on 12/06/2012), <http://unfccc.int/resource/docs/cop1/07a01.pdf>,

¹⁰⁴ Paul G Haris, *The Glacial Politics of Climate Change*, p. 459.

¹⁰⁵ Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p.25.

emission reduction projects in another developed country and with Clean Development Mechanism (CDM) projects developed country parties could earn emission credits by investing in emission reduction projects in developing countries.¹⁰⁶

The following negotiations during COP 4 (Buenos Aires), COP 5 (Bonn) and COP 6 (Hague) in the period of 1998-2000 were not ambitious enough to produce fruitful results. Especially at COP 6 in Hague the disagreements among the Parties on carbon sinks led to break down of the COP 6. Moreover the declaration of the President George W. Bush for the withdrawal of the United States from Kyoto before ratified it, created great disappointment and put the entry into force of Kyoto Protocol in question. COP 6, then resumed in Bonn in 2001 with an agreement on carbon sinks, emission trading, compliance mechanisms and aids for the developing countries.¹⁰⁷

On the other hand COP 7, held in Marrakech in 2001, produced agreed outcomes on a long list of issues related to implementation of Kyoto Protocol.¹⁰⁸ Furthermore, the finance issues debated extensively and Parties agreed to increase funding for Global Environmental Facility (GEF) as well as the creation of three new funds for further aid to poor countries namely, Least Developed Countries Fund, the Special Climate Change Fund and Adaptation Fund.¹⁰⁹

COP 11, which was held in Montreal Canada, in 2005, was of special importance since it was the first meeting that was held in conjunction with first Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) after the Kyoto Protocol entered into force. In this session, a subsidiary body, Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP), was agreed to be created to negotiate future commitments for

¹⁰⁶ Paul G Haris, *The Glacial Politics of Climate Change*, p. 460.

¹⁰⁷ *Ibid.*

¹⁰⁸ *Ibid*, p. 461.

¹⁰⁹ See Decisions 10/CP.7, 7/CP.7 in UNFCCC, *Report Of The Conference Of The Parties On Its Seventh Session, Held At Marrakesh From 28 October To 10 November 2001* (FCCC/CP/2001/13/Add.1)ö, (accessed on 14/02/2014), <http://unfccc.int/resource/docs/cop7/13a01.pdf>,

Annex I Parties under the Kyoto Protocol and to report the progress to the CMP.¹¹⁰ On the other side, at COP 12 in Nairobi Kenya in 2006 Nairobi Work Program on Impacts, Vulnerability and Adaptation was adopted.

COP 13, realized in Bali Indonesia in 2007, was another milestone in climate change negotiations history with its substantial progress resulted in "Bali Road Map". The Bali outcomes stimulated mostly by the results of IPCC Fourth Assessment Report which ascertained the seriousness of climate change problem.¹¹¹ Bali Road Map indeed was

A comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012 in order to reach an agreed outcome and adopt a decision.¹¹²

In fact, Bali Road Map planned in a way to guide a new and comprehensive agreement under both Convention and Kyoto Protocol to be adopted at COP 15 in Copenhagen at the end of 2009.¹¹³ With this aim, a subsidiary body under the Convention, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) was decided to be constructed. Bali Road Map or in its other name, Bali Action Plan (BAP) included five main categories: shared vision, mitigation, adaptation, technology and financing.¹¹⁴

Another innovative issue introduced with BAP was that forthcoming international action was going to be addressed by a "two-track" approach, which means that negotiations would continue under both the Convention and the Protocol according

¹¹⁰ UNFCCC, "Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG- KP)", (Accessed on 20/02/2014), <http://unfccc.int/bodies/body/6409.php>.

¹¹¹ Paul G Haris, *The Glacial Politics of Climate Change*, p. 461.

¹¹² UNFCCC, "Now, up to and beyond 2012: The Bali Road Map", (Accessed on 20/02/2014), http://unfccc.int/key_steps/bali_road_map/items/6072.php.

¹¹³ Paul G Haris, *The Glacial Politics of Climate Change*, p. 462.

¹¹⁴ UNFCCC, "Now, up to and beyond 2012: The Bali Road Map"

to the related topics.¹¹⁵ The Convention track basically incorporates mitigation actions of developing countries, mitigation commitments from developed countries, reducing emissions from deforestation and forest degradation whereas Kyoto Protocol track covers means to achieve targets: market mechanisms, national policies, accounting issues, role of land use, land-use change and forestry (LULUCF) and seeking an agreement on developed country emission reduction targets by 2009.¹¹⁶ All these mentioned sub topics under the two tracks were began to be discussed under AWG-LCA beginning from 2007. Actually, BAP was distinctive in the sense that it was the first time that the distinction between “developed” and “developing countries” being highlighted under the Convention as opposed to “Annex I” and “Non-Annex I Parties”. This notion enabled negotiators to make a possible new differentiation according to the degree of development.¹¹⁷

COP 15, held in Copenhagen, Denmark in 2009 was one of the greatest disappointments in the history of climate change negotiations that had commenced with substantial hope for a universal and effective solution for the climate change problem with a new mitigation regime for post 2012. It was a distinctive organization in the sense that approximately 115 state leaders attended to the high level segment of the meeting, making the meeting one of the biggest gatherings of world leaders outside of New York.¹¹⁸ Moreover, the Copenhagen Climate Change Conference (COP 15) was took extraordinary public and media attention with the application of representative of governments, nongovernmental organizations, intergovernmental organizations, media

¹¹⁵ UNDP, “The Bali Action Plan: Key Issues in the Climate Negotiations”, *Environment and Energy Publications*, September 2008, p.3.

¹¹⁶ Ibid.

¹¹⁷ IISD, “Summary of the Doha Climate Change Conference: 28 November - 11 December 2011”, *Earth Negotiation Bulletin*, 2012, Vol. 12, No. 534, p. 27, (accessed on 15/05/2014), <http://www.iisd.ca/download/pdf/enb12567e.pdf>,

¹¹⁸ IISD, “Summary of the Copenhagen Climate Change Conference: 7-19 December 2009”, *Earth Negotiation Bulletin*, 2009, Vol. 12, No. 9, p. 1, (Accessed on 11/04/2014), <http://www.iisd.ca/download/pdf/enb12459e.pdf>

and UN agencies constituting more than 40,000 people where the capacity was enough for maximum 15,000 people.¹¹⁹ As well as civil society and media, politicians were also hopeful for an ambitious outcome. Ritt Bjerregard, the Mayor of Copenhagen at that time, explained that COP 15 had to "go very far, very fast" and invited delegates to turn Copenhagen into "Hopenhagen" and to "seal the deal"¹²⁰

In spite of the fact that negotiations were very intense, exhausting and challenging; many questions and objections aroused concerning the transparency of the meetings. Furthermore, the draft texts launched by the COP presidency which were not the outcome of negotiations of working groups and relevant bodies, angered most of the delegates as these text proved that the rumors in the aisles about a "Danish Text" approved in pre-COP in November 2009 had been reflecting probably the truth.¹²¹ It was a turning point for the negotiations in the sense that many more debate on transparency and how to proceed with the negotiations emerged till the start of the high level segment with the arrival of 115 Heads of States. Last night COP President Lars Rasmussen submitted the "Copenhagen Accord", which dissatisfied and objected by some Parties such as Venezuela, Bolivia, Cuba and Sudan, and finally could only be "taken note of" instead of "adopted".¹²²

Although there were arguments that the Accord was concise with its inclusion for a 2°C target for limitation of global warming, it actually did not include neither legally binding emission reductions for the mitigation of developed country parties nor a specific time table for global emissions to reach a peak. The financing promises of the Accord asserting for mobilizing 30 billion US dollars for the period 2010-2012 and an

¹¹⁹ IISD, "Summary of the Copenhagen Climate Change Conference: 7-19 December 2009", *Earth Negotiation Bulletin*, 2009, Vol. 12, No. 9, p. 1, (Accessed on 11/04/2014), <http://www.iisd.ca/download/pdf/enb12459e.pdf>

¹²⁰ Ibid, p. 3

¹²¹ Ibid, p. 28

¹²² Ibid, p. 29.

additional 100 billion US dollars a year by 2020 as long-term finance were the most successful outcomes for COP 15.

On the other hand at COP 16 “Cancun Agreements” were adopted which included provisions on adaptation, REDD+, technology, mitigation and finance with which most participants were satisfied and it restored confidence in the UNFCCC process again after Copenhagen failure.¹²³ Therefore COP 16 could be noted down as a successful climate change conference in the sense that it provided the balance on each two tracks of the negotiations the Convention and the Kyoto Protocol.¹²⁴ To be more specific, as well as covering technical issues related to the pledges by developed and developing countries, it founded registry system for NAMAs by developing countries and Green Climate Fund to account for both fast-start and long-term finance and it strengthened procedures on MRV.¹²⁵ Finally, despite the fact that the second commitment period under the Kyoto Protocol was not instituted, the Cancun Agreements brought developed country parties’ mitigation targets and developing countries’ mitigations action officially under the UNFCCC process.¹²⁶

COP 17, held in Durban 2011, was a step forward in terms of the response of international community to climate change as being the second largest climate change conference.¹²⁷ The negotiations focused on the implementation of the Convention, the Kyoto Protocol, the Bali Action Plan, and the Cancun Agreements. In order to hold the

¹²³ IISD, “Summary Of The Cancun Climate Change Conference: 29 November – 11 December 2010”, *Earth Negotiation Bulletin*, 2010, Vol. 12, No. 498, p. 1, (Accessed on 11/04/2014), <http://www.iisd.ca/download/pdf/enb12498e.pdf>,

¹²⁴ Ibid, p. 29.

¹²⁵ Ibid

¹²⁶ Ibid

¹²⁷ IISD, “Summary of the Durban Climate Change Conference: 28 November - 11 December 2011”, Vol. 12, No. 580, p. 1-30, available at <http://www.iisd.ca/download/pdf/enb12534e.pdf>, (accessed on 14/06/2014)

increase in global average temperature below 2 °C or 1.5 °C above pre-industrial levels, the most important outcome was adopted by the Parties was

to launch a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties, through a subsidiary body under the Convention hereby established and to be known as the Ad Hoc Working Group on the Durban Platform for Enhanced Action.¹²⁸

Further, in relation to this issue, another decision adopted by the COP 17 asserts that

the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete its work as early as possible but no later than 2015 in order to adopt this protocol, another legal instrument or an agreed outcome with legal force at the twenty first session of the Conference of Parties and for it to come into effect and be implemented from 2020.¹²⁹

Hence, a new negotiation line has been opened under Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP) which will construct the new climate change regime which will be in effect after 2020.

Additionally, COP 17 decided upon the continuation of the Kyoto Protocol with a second commitment period in the following manner: "the second commitment period under the Kyoto Protocol shall begin on 1 January 2013 and end either on 31 December 2017 or 31 December 2020."¹³⁰ Finally, the launch of Green Climate Fund was decided at COP 17 with various issues to enable its operationalization.¹³¹

¹²⁸ UNFCCC, "Report of the Conference of the Parties On Its Seventeenth Session, Held At Durban From 28 November to 11 December 1995 (FCCC/CP/2011/9/Add.1)", p.2, (accessed on 25/02/2014). <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

¹²⁹ Ibid.

¹³⁰ UNFCCC, "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from 28 November to 11 December 2011, (FCCC/KP/CMP/2011/10/Add.1)", p. 2, (accessed on 25/02/2014), <http://unfccc.int/resource/docs/2011/cmp7/eng/10a01.pdf>,

¹³¹ UNFCCC, "Report of the Conference of the Parties On Its Seventeenth Session, Held At Durban From 28 November to 11 December 1995 (FCCC/CP/2011/9/Add.1)", p. 55, (accessed on 25/02/2014), <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

The ambition regained in Durban in 2011 at COP 17, was a crucial factor for the decisions taken at COP 18 in Doha in 2012. The Decisions of COP 18, called as Doha Climate Gateway, were indeed a consolidation of gains from international climate change negotiations since Copenhagen Climate Change Conference.¹³² At COP 18, the second commitment period of the Kyoto Protocol was ascertained as starting on 1 January 2013 and ending on 31 December 2020.¹³³ Moreover, COP 18 decisions noted the initiation of two work streams under Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP) one for addressing the ambition for pre 2020 ambition gap and one for the vision of new agreement for post 2020.¹³⁴

Besides, further progress accomplished towards institutionalizing the financial and technology support together with new institutions to support clean energy investments and sustainable development in developing countries. Another striking development at COP 18 was the termination of Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) that had been launched at Bali Action Plan and termination of Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol that had been launched at CMP 1 in 2005. However, developing countries evaluated the decisions taken in this context as lack of ambition especially those which were related to Annex I Parties' mitigation and financial supports while most of the Parties agreed that the conference had paved the way for a

¹³² UNFCCC, "Doha Climate Gateway", (Accessed on 25/02/2014), http://unfccc.int/key_steps/doha_climate_gateway/items/7389.php

¹³³ UNFCCC, "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighth session, held in Doha from 26 November to 8 December 2012 (FCCC/KP/CMP/2012/13/Add.1)", p.3, (accessed on 15/06/2014), <http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf>

¹³⁴ UNFCCC, "Report of the Conference of the Parties On Its Eighteenth Session, Held At Doha From 26 November to 8 December 2012 (FCCC/CP/2012/8/Add.1)", p. 19, (accessed on 25/02/2014), <http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf>,

new stage.¹³⁵ The most important decision in Warsaw in 2013 at COP 19 was that by the twentieth session of the Conference of the Parties, all Parties will put forward their contributions, without prejudice to the legal nature of the contribution.¹³⁶ Additionally, the launch of Warsaw international mechanism on loss and damage associated with climate change related impacts¹³⁷ was welcomed by all Parties.

2.5 Conclusion

In this chapter, different accounts of climate change problem from various organizations are provided by highlighting the different points that are stressed. With this respect, the role of especially carbon emissions and human factor in global warming is emphasized. On the other hand, environment as a new topic for IR mostly debated after 1970s. While the dominant theories in literature for environmental issues are realism and liberalism, the international cooperation in the form of the climate change regime is best explained by neo-liberal institutionalist accounts with its emphasis on cooperation under anarchy. Moreover, the international developments which led to formation of an international climate change regime beginning from Stockholm Conference to current debates for post-Kyoto period are summarized. UNFCCC, although not an international organization yet, is nearly universal with 195 Parties. Moreover, to achieve more concrete results for tackling with climate change Kyoto Protocol was launched bringing about quantified emission reduction targets for developed country parties. Furthermore, the relevant bodies of UNFCCC and the yearly meetings of high level decision making bodies under the Protocol such as COPs and

¹³⁵ IISD, "Summary of the Doha Climate Change Conference: 28 November - 8 December 2012", *Earth Negotiation Bulletin*, 2012, Vol. 12, No. 567, p. 1, (Accessed on 11/04/2014), <http://www.iisd.ca/download/pdf/enb12567e.pdf>

¹³⁶ UNFCCC, "Report of the Conference of the Parties On Its Nineteenth Session, Held At Warsaw From 11 to 23 November 2013 (FCCC/CP/2013/10/Add.1)", p. 4, (accessed on 25/02/2014), <http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf>.

¹³⁷ *Ibid*, p.8.

CMPs are discussed in the historical order so as to point out the most significant stages in the history of international climate change regime. In this respect, the significance of the failure of COP 15- held in Copenhagen in 2009- to conclude with a new climate change regime in the post Kyoto Protocol beyond 2012 was emphasized. Subsequently how the international confidence for the climate change negotiations reemerged in COP 16-Cancun 2010 and COP 17- Durban 2011 was demonstrated. With this respect, the most important development pointed out to be the new negotiation line, AWG-ADP which aims to end up with a post-Kyoto international climate change regime which will be applicable to post 2020 period.

In the next chapter, the profile of Russia in terms of economy, energy and greenhouse gases will be discussed as well as the key political developments in Russia with respect to climate change.

CHAPTER 3

PROFILE OF RUSSIA: ECONOMY, ENERGY AND EMISSIONS

3.1 Introduction

In this chapter, most basically climate change related indicators of Russia are examined in order to light for the climate policies of the country. The most crucial indicators reviewed in this chapter are related to economic, energy and GHGs emission developments. Moreover key policy responses of Russia as a reaction to climate change are briefly examined in the last part of this chapter.

As it is well known, Russia is the largest country of the world with a total area of 17,098,200 square km, nearly doubles the second largest country Canada by spanning nine time zones.¹³⁸ Such an enormous territory brings about diversity in various areas. For instance, the country encompasses various environment and land forms ranging from deserts to semi-arid steppes to deep forests to Arctic Tundra.¹³⁹ Although there is diversity in terms of the climate the country experiences a result of the country's vast size, the dominant climate in the country is continental regimes since most of the land lies more than 400 km from the sea.¹⁴⁰ As well as its giant territory and climatic endowments, Russia is blessed by depositing significant energy resources and materials. The wealth of energy resources are derived from natural gas, oil and coal; while wealth for raw materials come from iron and other nonferrous materials such as cobalt, chrome, copper, gold, lead, manganese, nickel, platinum, tungsten, vanadium, and

¹³⁸ Britannica Academic Edition, "Russia", (Accessed on 02/March/2014), <http://www.britannica.com/EBchecked/topic/513251/Russia>

¹³⁹ Britannica Academic Edition, "Russia"

¹⁴⁰ Britannica Academic Edition, "Russia"

zinc.¹⁴¹ Russia, which had played a crucial role for Soviet economic developments with those resources, experienced a great shock after the dismantling of Soviet command economic system. Russia became the largest post-Soviet state after the dissolution of the Soviet Union on 25 December 1991 in terms of both geographical area and the size of its economy. Energy industry has always become the backbone of the Russian economy.

On account of the fact that climate change problem is a matter of increased amount of GHGs emissions, which are directly linked to energy policies and industrial processes, any country subject to an analysis of climate change should be evaluated its economic structure and energy policies. In fact, close relationship between energy sector and climate change is clear from the fact that the energy sector forms more than two-thirds of global GHGs emissions.¹⁴² Therefore, the analysis should deal with energy related aspects in a more detailed way for an on oil and gas rich country like Russia. Besides, in order to account for precisely the Russian climate change policies of today and future, one should carefully examine the economic developments in Russia in the post-Soviet era and identify the role of energy for the Russian Economy as well as the GHGs emissions profiles of the country. Moreover, indicators combining socio-economic developments with emissions such as energy intensity and carbon intensity tell a lot about the policy developments and choices made by a country. Accordingly, a snapshot of the country in each dimension is provided in the subsequent parts.

3.2 Economic Indicators

As it is well known, Russia had been the engine of the Soviet economic system, in which all the natural resources and almost all equipment, buildings, inventory,

¹⁴¹ Britannica Academic Edition, "Russia"

¹⁴² IEA, "Redrawing the Energy-Climate Map: World Energy Outlook Special Report", OECD/IEA, Paris

machinery were owned by the state; hence all the economic activities in industry, mining, construction, transportation and wholesale trade, communication, health, research and development and education were performed by the state.¹⁴³ The prominent characteristics of Soviet type economic system was noted down by Richard Ericson as, "a hierarchical structure of authority" for decision making, "centralized planning of production and distribution", adherence to "maximal resource utilization, implying tautness and pressure in planning", "formal rationing", "exhaustive price control", "the lack of any liquidity or flexible response capacity", "absolute and arbitrary control by superiors of the norms, indices, and parameters of plan assignments", "performance evaluation and rewards" and "incentives" promoting meeting the targets instead of analyzing the economic consequences of decisions.¹⁴⁴ With the dismantling of such a giant command economy with its unique attributes, all successive post-soviet states left with a decision to build their new economic systems and relevant institutions. Each soviet successor states adopted different approaches for transition to market economy.

In this sense, Russia implemented a shock therapy approach, which Peter Murrell explained as the notion of rapid reforms with a top down revolutionary strategy for entire restructuring of the economic institutions and mechanisms of the country.¹⁴⁵ Shock therapy approach was usually advocated and/or suggested by Western governments and economists with the assumption of the knowledge for creating market institutions were readily available.¹⁴⁶ This strategy necessitated a fast track transformation to a convertible currency, deregulation prices, trade liberalization, complete tax reforms, ensuring de-monopolization and privatization.¹⁴⁷ However shock

¹⁴³ Richard E. Ericson, "The Classical Soviet Type Economy: Nature of the System and Implications for Reform", *The Journal of Economic Perspectives*, 1991, Vol. 5, No.4, p.12

¹⁴⁴ Ibid, p.19

¹⁴⁵ Peter Murrell, "What is Shock Therapy? What Did it Do in Poland and Russia?" *Post-Soviet Affairs*, 1993, Vol. 9, No. 2, p. 115.

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

therapy prescriptions failed for several reasons as it is evident with an examination of economic indicators of Russia in the first few years. Russian economy shrunk very sharply in the beginning of 1990s (Table 2). The experience of Russia for transition to market economy got even worse when the Asian crisis swept through the country as a result of excessive government deficits and inefficient financial reforms. Most important reasons for the failure of this path of transition are thought as unpreparedness of Russian society for affecting the constructive measures necessary for the functioning of a rudimentary economy.¹⁴⁸

At the beginning of 1990s Russian economy shrank enormously as a reaction to abrupt dismantling of command Soviet economy where all decisions had been taken and implemented centrally and each Union state had been closely tied to each other with demand supply relations. In 1997, finally Russian Gross Domestic Product (GDP) recorded a positive growth but it was hit once again with the crisis in year the 1998 (Table 2). However, Russian GDP experienced positive growth each year during ten years beginning from 1999 till the global economic crisis, which led to a fall in the Russian GDP in 2009. After 2009, Russian GDP has grown at a rate more than 3% but 2013 growth was only 1.5% (Table 3). While Russian GDP fluctuated throughout the independence, GDP per capita has increased except for the years of crisis 1998 and 2009. Besides, although with some variations, indicators for government revenue, government expenditure, current account balance and the share of Russian GDP in the world total output improved. The most problematic issues related to Russian economy could be noted down as the declining population of the country and the faster growing volume of imports as compared to exports (Table 2 and 3). Energy sector is the backbone of the Russian economy by accounting for 52% of federal budget revenues and over 70% of export revenues as of 2012.¹⁴⁹

¹⁴⁸ Peter Murrell, "What is Shock Therapy? What Did it Do in Poland and Russia?" p. 131.

¹⁴⁹ EIA, "Russia", March 2014, (Accessed on 11/05/2014), <http://www.eia.gov/countries/cab.cfm?fips=RS>, (Accessed on 11/05/2014)

Table 2: Economic Indicators of Russia (1992-2002)

Subject Descriptor	Units	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Gross domestic product, constant prices	Percent change	n/a	-8.7	-12.7	-4.1	-3.6	1.4	-5.3	6.4	10.0	5.1	4.7
Gross domestic product per capita, current prices	U.S. dollars	128	1239	1865	2114	2642	2740	1838	1334	1775	2096	2377
Gross domestic product based on purchasing-power-parity (PPP) share of world total	Percent	4.2	3.7	3.1	2.9	2.7	2.6	2.4	2.5	2.6	2.7	2.7
Volume of imports of goods and services	Percent change	n/a	-9.4	9.4	17.7	6.2	9.8	-16.6	-27.5	16.3	23.1	13.0
Volume of exports of goods and services	Percent change	n/a	-2.1	4.9	7.7	6.8	-0.2	1.2	-4.4	7.5	3.0	8.8
Unemployment rate	Percent of total labor force	4.8	5.3	7.2	8.5	9.6	10.8	11.9	13.0	10.6	8.9	8.0
Population	Million Persons	148.6	148.4	148.5	148.3	148.3	147.8	147.5	146.9	146.3	146.3	145.2
General government revenue	Percent of GDP	n/a	n/a	n/a	n/a	n/a	n/a	34.6	32.9	36.2	36.9	37.0
General government total expenditure	Percent of GDP	n/a	n/a	n/a	n/a	n/a	n/a	42.5	36.7	32.8	33.7	36.3
General government net lending/borrowing	Percent of GDP	n/a	n/a	n/a	n/a	n/a	n/a	-8.0	-3.8	3.3	3.2	0.7
Current account balance	Percent of GDP	-1.4	1.4	2.8	2.2	2.8	0	0.1	12.6	18.0	11.1	8.4

Source: International Monetary Fund, World Economic Outlook Database, October 2013

Table 3: Economic Indicators of Russia (2003-2013)

Subject Descriptor	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Gross domestic product, constant prices	Percent change	7.3	7.2	6.4	8.2	8.5	5.2	-7.8	4.5	4.3	3.4	1.5
Gross domestic product per capita, current prices	U.S. dollars	2968	4097	5311	6913	9102	11631	8568	10,671	13,335	14,302	14,973
Gross domestic product based on purchasing-power-parity (PPP) share of world total	Percent	2.8	2.9	2.9	3.0	3.1	3.2	3.0	3.0	3.0	3.0	3.0
Volume of imports of goods and services	Percent change	21.2	20.9	18.2	20.9	25.9	14.4	-28.7	24.7	16.9	10.7	2.6
Volume of exports of goods and services	Percent change	12.8	12.0	8.5	8.1	7.0	3.0	-12.7	5.6	6.7	4.1	2.0
Unemployment rate	Percent of total labor force	8.6	8.2	7.6	7.2	6.1	6.3	8.4	7.3	6.5	6	5.7
Population	Million Persons	145.0	144.3	143.8	143.2	142.8	1428	142.7	142.9	142.41	141.92	141.44
General government revenue	Percent of GDP	36.4	36.6	41.0	39.5	39.9	39.2	35.0	34.6	37.4	37.4	36.1
General government total expenditure	Percent of GDP	34.9	31.7	32.8	31.1	33.1	34.3	41.4	38.0	35.8	37.0	36.8
General government net lending/borrowing	Percent of GDP	1.4	4.9	8.2	8.3	6.8	4.9	-6.3	-3.4	1.5	0.4	-0.7
Current account balance	Percent of GDP	8.2	10.1	11.1	9.3	5.5	6.3	4.1	4.4	5.1	3.7	2.9

Source: International Monetary Fund, World Economic Outlook Database, October 2013

As well as reviewing the Russian economic performance in the past, it is vital to assess the economic outlook of the country in the future so as to be able to predict how Russian policy makers behave in designing their policies to match the needs of the economy. For that aim, the forecast for Russian economic performance in the near future should be analyzed. When the forecasts for Russian economy (provided in Table 4) are analyzed, it is seen that Russian economy is expected to grow thanks to the growing exports. Besides, the industry and gross fixed investments are expected to soar in the coming period. Furthermore, Russian accession to World Trade Organization (WTO) is assumed to bring about material gains for Russian economy in the short and long run.¹⁵⁰

Nevertheless, annual average real GDP growth in the 2014-2018 will be less than the rates realized in the period 2000-2008.¹⁵¹ One of important the factors constraining the medium-term growth of the economy is related to developments in the energy sector. The assessments of Economic Intelligence Unit on energy sector are also very vital in terms of climate change dynamics for the country:

With oil companies struggling to increase production, as existing fields are depleted and recovery becomes more difficult. Production in western Siberia peaked some years ago. Russia is running out of cheap oil, as the "legacy" assets inherited from the Soviet Union begin to decline. The remaining oil is deeper, harder to access and less profitable because of higher production costs. To prevent declining production, the industry will have to expand to remoter and geologically more complex areas, such as the Arctic offshore.¹⁵²

The forecasted need for the Russian authorities to reach Arctic reserves could affect the attitude of them towards domestic and international policies solving climate change as a result of evaluating it as more of an opportunity.

¹⁵⁰ World Bank, "Russian Economic Growth: Moderating Risks, Bolstering Growth", Spring 2012, No. 7, (Accessed on 11/05/2014) <http://www.worldbank.org/content/dam/Worldbank/document/rer-27-march2012-eng.pdf>

¹⁵¹ Economic Intelligence Unit, Russia Country Report, May 2014, p.8.

¹⁵² Ibid.

Table 4: Economic Growth in Russia

Growth (%)	2014	2015	2016	2017	2018
GDP	0.5	1.3	2.3	2.7	3.1
Private Consumption	-0.4	2.1	2.9	2.8	3.9
Government Consumption	0	1	2.6	2.5	2.5
Gross Fixed Investment	-2	2	4	4	4.5
Exports of Goods and Services	-1.7	2.9	3.4	4.2	4.1
Imports of Good and Services	6.5	5.5	6.5	5.7	6.4
Domestic Demand	-0.7	1.9	3.2	3	3.8
Agriculture	1.5	1.6	1.8	1.8	1.8
Industry	2.8	3.8	3.7	3.7	3.7
Services	-0.7	0	1.7	2.2	2.9

Source: Economic Intelligence Country Report, May 2014.

3.3 Energy Profile of Russia

Combustion of hydrocarbon resources is thought to be the main cause of the enormous increase in atmospheric GHGs concentrations since the beginning of the Industrial Revolution. Because of the fact that energy sector has been the backbone of Russian economy since the independence, energy profile of the country should be assessed carefully so as to track the route of climate policies of Russia even before analyzing the GHGs profile of the country.

The reserves of the conventional energy resources of the country are astonishing. It has 5.2% of total proved oil reserves, 17.6% of total proved natural gas reserves and 18.2% of total proved coal reserves.¹⁵³ With these figures Russia ranks as the 1st in terms of natural gas endowment and 6th in terms of oil reserves while it is the 2nd after U.S. in terms of coal reserves as of 2012.¹⁵⁴

¹⁵³British Petroleum, BP Statistical Review of World Energy 2013, London: BP Plc, 2013, p. 6, p. 20 and p. 30, (accessed on 12/06/2014), http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical_review_of_world_energy_2013.pdf.

¹⁵⁴ Ibid.

In terms of oil production, between the years of 1992-1999, Russia experienced a sharp decline while increased its production continuously after 2000 as a reaction to increasing crude oil prices.¹⁵⁵ Currently, it constitutes 12.8% of world oil production with 526.2 million tons and 3.6% of world oil consumption with 147.5 million tons.¹⁵⁶ Nonetheless, the output expansion has decelerated in the past few years and a material growth in oil production is not assumed.¹⁵⁷ As to the domestic oil consumption, it has always been much lower than the amount of production. Hence, Russia has always had the capacity to export its excess oil production (Figure 5). In terms of its refinery capacity, Russia has 6.6% of world total refinery capacity.¹⁵⁸

Similarly, Russian natural gas production constantly became more than the consumption of the country giving a room for exports. Although there have not been sharp movements in natural gas production and consumption, the trend has been in the form of decline till the start of 2000s and a rather abrupt fall in 2009 in terms of both production and consumption (Figure 6). Presently, Russia constitutes 17.6% of world natural gas production with 593.2 billion cubic meters and 12.5% of world natural gas consumption with 416.2 billion cubic meters.¹⁵⁹ The pipeline natural gas export of the country amounted to 185.9 billion cubic meters as of 2012 while LNG gas exports amounted to 14.8 billion cubic meters in the same year.¹⁶⁰

¹⁵⁵ While the spot crude oil price per barrel fall at a level of 12.21 in 1998, it rebounded to 26.2 in 2000., 49.35 in 2005 and 109.08 in 2012. For further details apply BP Statistical Review of World Energy 2013.

¹⁵⁶ BP Statistical Review of World Energy, 2013, p.8

¹⁵⁷ Adnan Vatansever, "Russia's Oil Exports Economic Rationale Versus Strategic Gains", *Carnegie Endowment for International Peace*, 2010, p. 3.

¹⁵⁸ BP Statistical Review of World Energy, 2013, p.16

¹⁵⁹ BP Statistical Review of World Energy, 2013, p.20

¹⁶⁰ *Ibid*, p.28

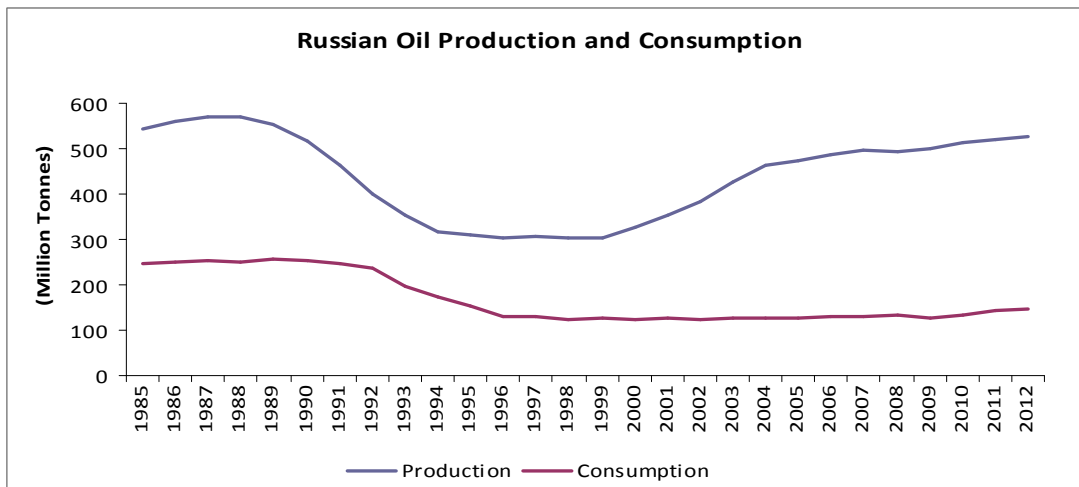


Figure 5: Russian Oil Production and Consumption (1985-2012)

Source: Based on the data from BP Statistical Review of World Energy, 2013

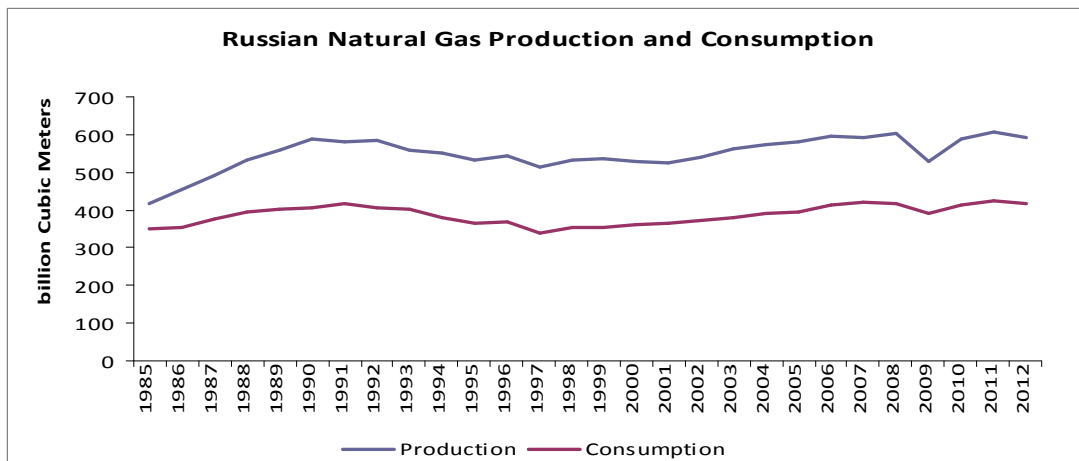


Figure 6: Russian Natural Gas Production and Consumption (1985-2012)

Source: Based on the data from BP Statistical Review of World Energy, 2013

In terms of coal production, one interesting issue that should be taken down is that Russia has a share of 4.4 % in world coal production as of 2012 despite a share of 18.2 % it takes from worldwide proved coal reserves,¹⁶¹ which implies that Russia could utilize its rich coal reserves in the future in order to change its energy mix if it needs.

¹⁶¹ BP Statistical Review of World Energy, 2013, p.30

Russian primary energy is supplied form mostly natural gas (56%), followed by petroleum (19%), coal (15%) and renewables (10%). (Figure 7)

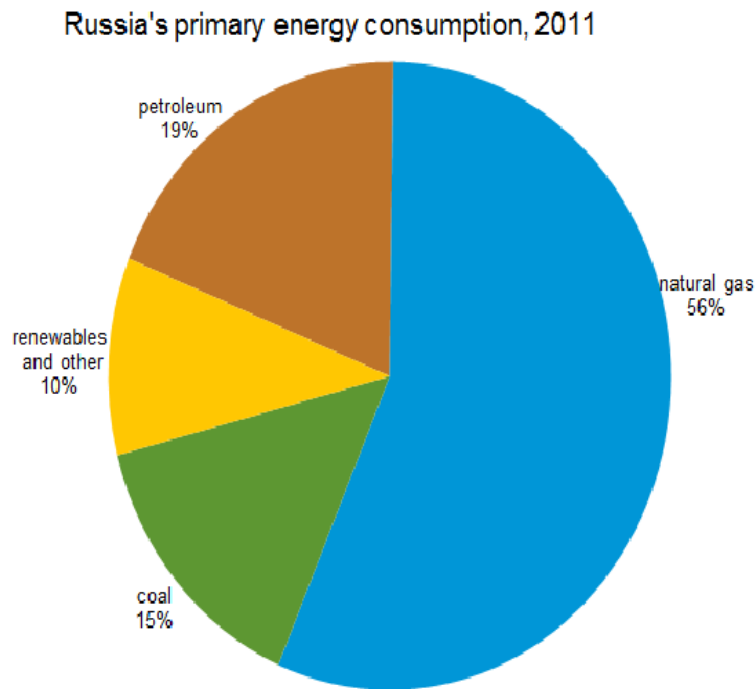


Figure 7: Russian Primary Energy Consumption, 2011

Source: US Energy Information Administration, Russia Country Report.

As demonstrated in Figure 7, climate friendly renewable energy resources are not much popular in Russia. The share of renewables in the primary energy supply is only 10% as of 2011. The most utilized renewable energy source is hydroelectricity with 37.8 million tones oil equivalent consumption and a share of 4.5% from world total hydroelectricity consumption as of 2012.¹⁶² Renewable energy consumption in Russia is amounted to 0.1 million tones oil equivalent based on gross generation from renewable sources including wind, geothermal, biomass and waste with no solar energy

¹⁶² Ibid, p.36

consumption.¹⁶³ However there are many opportunities for renewable energy throughout the country.¹⁶⁴

Another useful analysis item for energy outlook could be the energy intensity, which is defined as the total primary energy consumption per dollar of GDP in US Energy Information Administration-(EIA) calculations.

According to EIA, Russia made a great progress in reducing its energy intensity till 2008 (Figure 8). However a new trend of increase in energy intensity of Russian economy started thereafter, which might bring about high CO₂ combustions and emissions and put Russia in an undesired manner in terms of climate change policies.

Nonetheless, when 1990 levels are taken as base years, Russia can be said to achieve significant reduction in energy intensity. Meanwhile, if the proper energy efficiency policies are applied, energy intensity of the country could fall in time by resulting in a more favorable outlook for the sake of climate change.

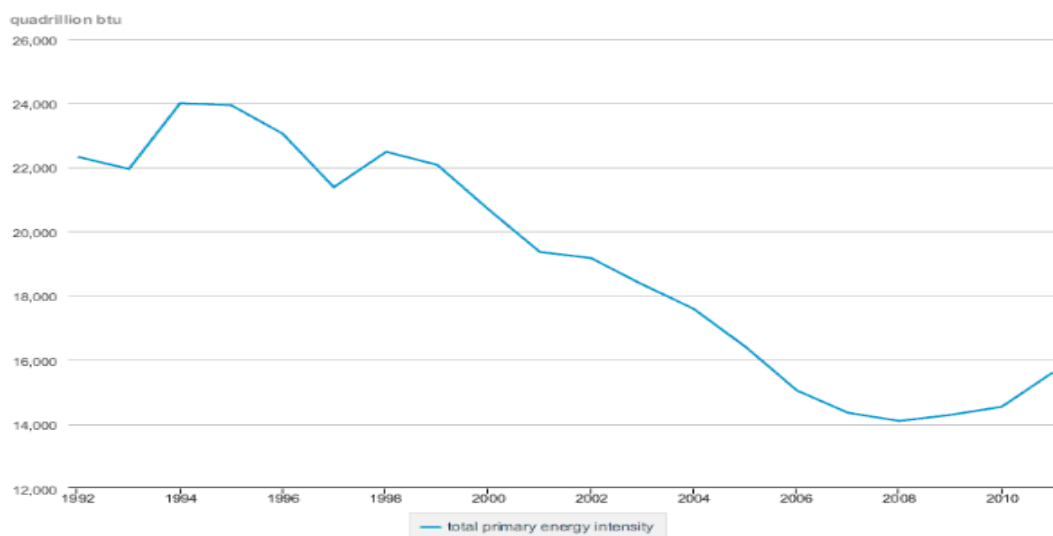


Figure 8: Russian Energy Intensity (1992-2011)
 Source: U.S. Energy Information Administration

¹⁶³ BP Statistical Review of World Energy, p. 36, 38 and 40.

¹⁶⁴ Eric Martinot, "Energy Efficiency and Renewable Energy in Russia", *Energy Policy*, Vol. 26, no. 11, p. 908.

3.4 GHGs Emissions and Carbon Related Measures for Russia

GHGs emissions of Russia without LULUCF (land use, land-use change and forestry) decreased by 30.8% from 1990 to 2011 and amounted to 2,320,850.7 Gg CO₂ equivalents and if the removals from LULUCF taken into account GHG emissions became 1,692,415.8 in 2011 with a 50.8% reduction as compared to base year.¹⁶⁵ Most of the emission of Russia was originated from CO₂ in the period of 1990-2011. CO₂ emissions of Russia without LULUCF lessened by 32.6% and amounted to 1,684,432.6 Gg CO₂ equivalents and to 1,036,239.9 Gg CO₂ equivalents if LULUCF removals considered by a reduction of 59.6%.¹⁶⁶ All in all both CO₂ and non-CO₂ emissions of Russia had a declining trend in the period of 1990- 2011 (Figure 9). Nonetheless, it is seen that the rate of decline diminished when the Figure 9 is analyzed. For instance, the average annual growth of GHGs emissions with LULUCF removals for the period from 1990 to 2000 was 6 7.4% while it was 0.6% from 2001 to 2011 and by combining two periods the rate is -3.3 %.¹⁶⁷

The reason why Russian GHGs emissions diminished in the period between 1990 and 2000 was the economic transition period that Russia experienced when the economic activities slowed down as a first reaction to new reforms adopted by the country to align with the global market economy.

¹⁶⁵ UNFCCC, "Summary of GHG Emissions for Russian Federation", (Accessed on 17/04/2014), http://unfccc.int/files/ghg_emissions_data/application/pdf/rus_ghg_profile.pdf.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

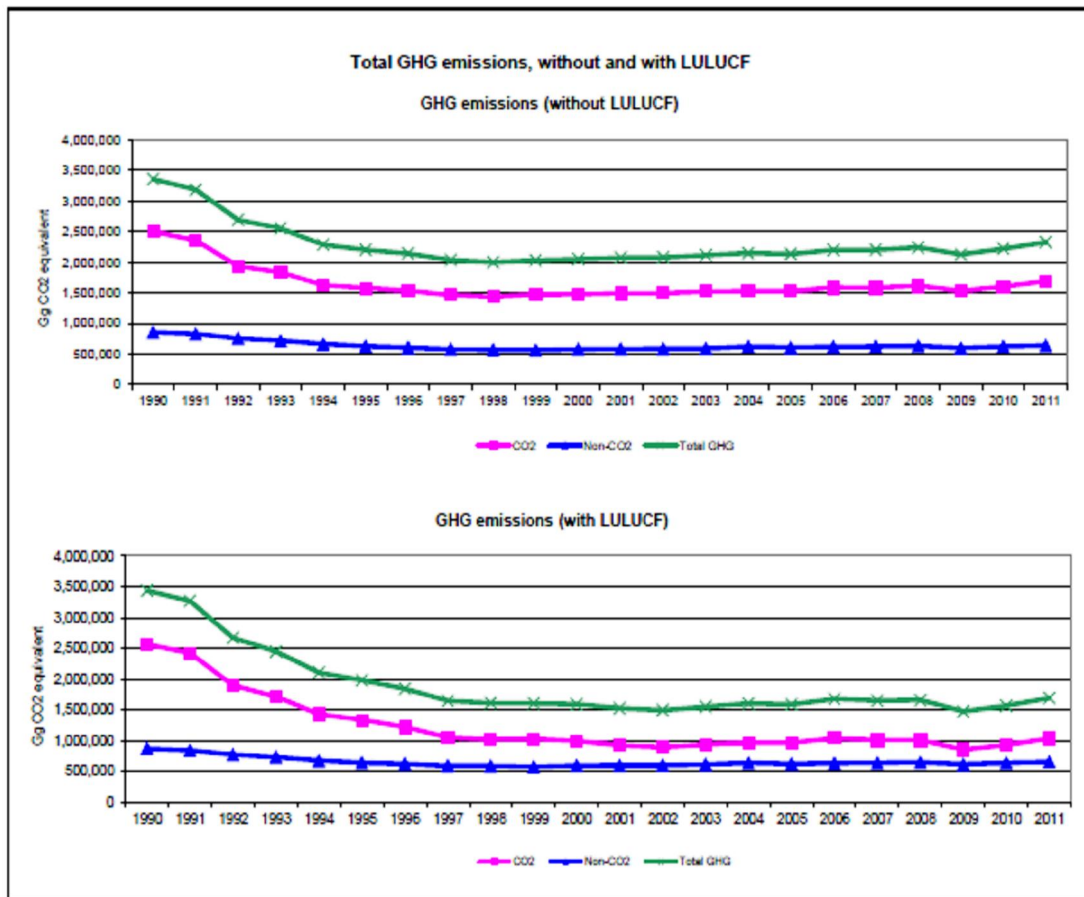


Figure 9: Russian Total GHG Emissions, without and with LULUCF (1990-2011)

Source: UNFCCC, *Summary of GHG Emissions for Russian Federation*

Alternatively, Russian authorities account for the decreasing GHGs emissions for the period 1990-2000 as follows:

some 60-70% of the reduction is due to economic decline, and about 8-12% of it is due to reforms in the energy sector; the remainder being due to the wider use of natural gas and structural changes in the economy.¹⁶⁸

¹⁶⁸ A. Mastepanov, 'Post-Kyoto energy strategy of the Russian Federation, outlooks and prerequisites of the Kyoto mechanisms implementation in the country', *Climate Policy*, 2001, Vol.1, No.1, p.125-133.

With this respect, Nicholas Howard and Andrew Foxall summarized the main arguments for the reduction of GHGs emissions in Russia in the period of independence:

Russia attained an unparalleled decarbonization of its economy since the independence, albeit for the reasons far removed from climate policy. This achievement has, however, been underplayed on the international stage for several reasons. Most notably the Russian case is the problematic to the logic of ecological modernization and the idea that cutting emissions is compatible with economic growth. Russia's radical decarbonization was precipitated by an economic collapse that left millions unemployed and caused a major deterioration in living standards.¹⁶⁹

Therefore, the foremost reason for emission reduction in Russia was the economic decline it experienced during the transition period. Although Russia decreased its GHGs emissions after 1990, it is still one of the largest GHGs emitters all around the world. In terms of its cumulative contribution to global emissions, it is recognized that Russia has been ranked as the fourth largest emitter after United States (U.S.), China and the European Union (EU) for the period of 1850- 2010¹⁷⁰ and fifth largest emitter for accumulations after 1990 behind the U.S., China, EU and India.¹⁷¹

In a more detailed analysis of Russian GHGs emissions it is seen that the only item related to Russian GHGs profiles that has increased is the waste sector while the most important contributor for decrease in GHGs has been the LULUCF from 1990 to 2011 as could be observed from Figure 10.

¹⁶⁹ Nicholas Howarth and Andrew Foxall, "Economics and politics of Climate Change in Russia", p. 149.

¹⁷⁰ Elzen et al, "Countries' contributions to climate change: effect of accounting for all greenhouse gases, recent trends, basic needs and technological progress", *Climatic Change*, 2013, Vol. 121, p.402.

¹⁷¹ WRI, "CAIT 2.0. 2014. Climate Analysis Indicators Tool: WRI's Climate Data Explorer". Washington, DC: World Resources Institute

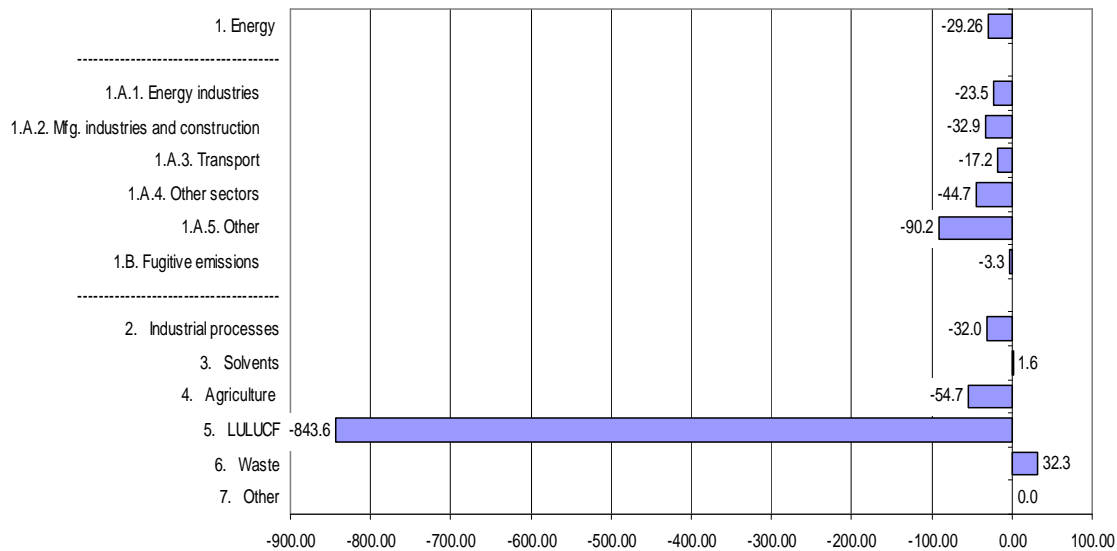


Figure 10: Change in Russian GHG Emissions/Removals from 1990 to 2011

Source: UNFCCC, Summary of GHG Emissions for Russian Federation

Energy sector is still the major source of GHGs in Russia with a share of 82.75% even with an increasing importance when compared with the profiles of 1990 (Figure 11). The second largest source of GHGs is industrial processes with 7.54% followed by emissions related to agriculture with 6.21% of total. Because of its dominance in overall emissions, energy related emissions should be put under the scope. For that purpose, the breakdown of GHGs emissions in energy sector is provided in Figure 12. According to the Figure 12, as of 2011, the largest part of energy related emissions come from energy industries with a share of 46.82% as of 2011 followed by fugitive emissions (21.75%) and transport (14.77%).

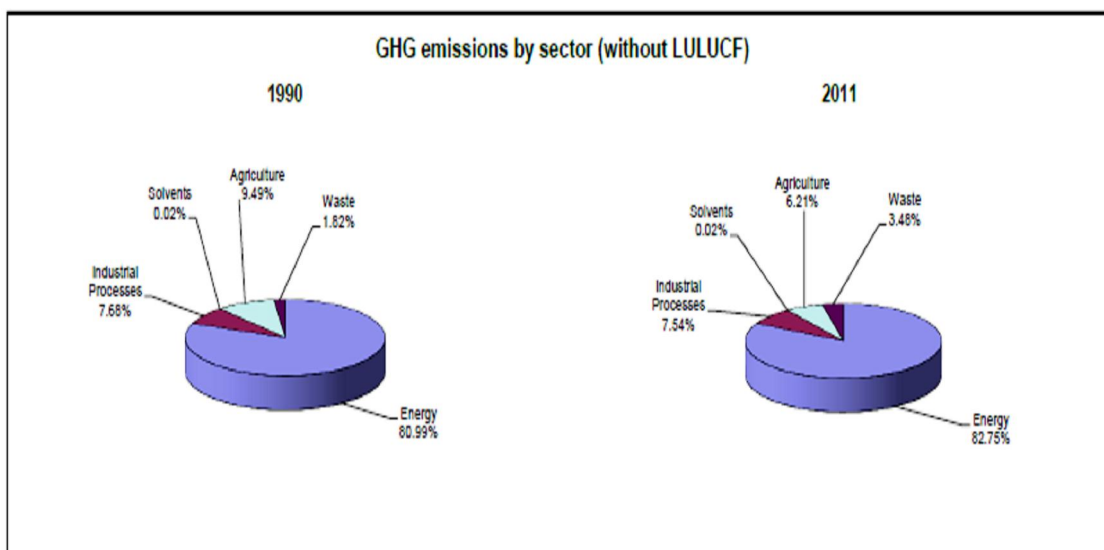


Figure 11 : Russian GHG Emissions by Sector (Without LULUCF)

Source: UNFCCC, Summary of GHG Emissions for Russian Federation

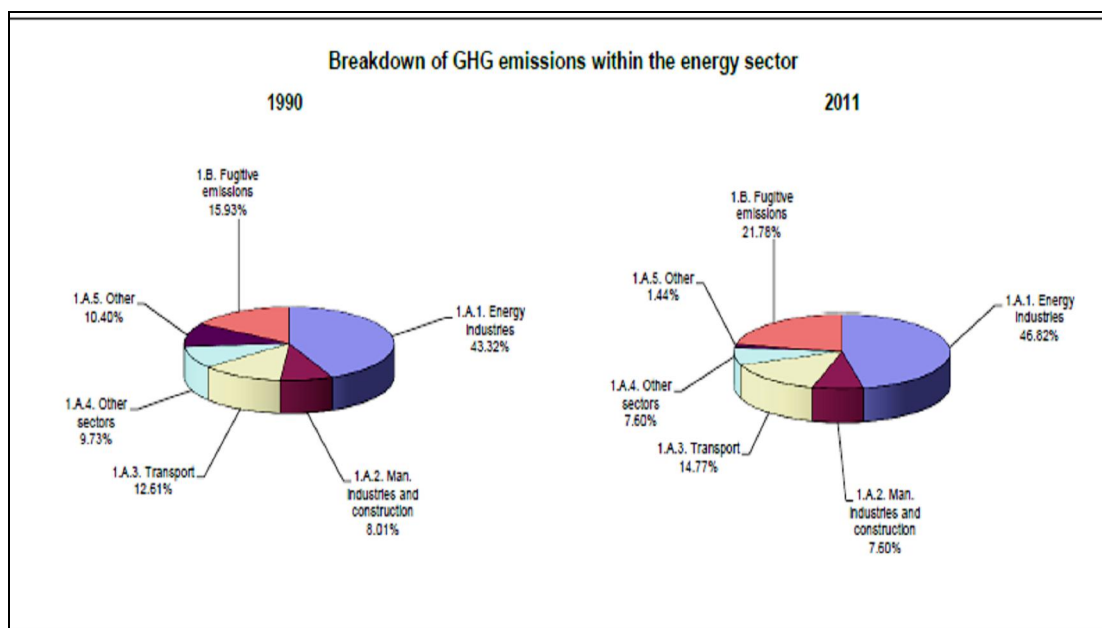


Figure 12: Breakdown of Russian GHGs emissions within energy sector.

Source: UNFCCC, Summary of GHG Emissions for Russian Federation

As for the structure, in other words the composition, of the Russian GHGs by gas, as of 2011, CO₂ has been the most important GHG gas for the emissions of Russia either including LULUCF or excluding it.¹⁷²

In short, the arguments related to decrease in GHGs emissions of Russia from in 1990s, were consistent with the explanation that rests on the economic transition of Russia. While the output was falling sharply so did the GHGs emissions. On the other hand, for the second decade of independence, while the economic growth was above 4.7% in each year, even around 7-8% (Table 2 and Table 3); the increase in GHGs emissions, as pointed out previously, was only 0.4 % on average between 2000 and 2011.

The reason for the limited increase in GHGs emissions for the period could be accounted for with the relatively stable oil and natural gas consumption of the country in that period as could be observed from Figure 5 and 6. Moreover, Russian industrial output did not enlarge substantially in the period of 2000-2011, which might have limited the growth in the GHGs emissions. However, it should be noted down that "the Russian economy might indeed have decoupled growth from greenhouse gas emissions to some extent."¹⁷³

Furthermore, the climate policies could be explained by the political power and their tendencies towards the different policy areas. For instance, Nicholas Howarth and Andrew Foxall commented on the formation of GHGs emissions in Russia by describing the period 1990-1998 as the "decarbonization years" of Yeltsin and the period after 1999 as the "recovery years" of Putin¹⁷⁴ in order to stress the effect of the political authority on GHGs profile of the country.

¹⁷² UNFCCC, "Summary of GHG Emissions for Russian Federation"

¹⁷³ Nicholas Howarth and Andrew Foxall, "Economics and politics of Climate Change in Russia", p. 150.

¹⁷⁴ Ibid, p. 151.

In order to build a base for domestic and international policies related to climate change a number of indicators derived from carbon emissions are applied. For instance, as an analysis of GHGs emissions for the economic performance carbon intensity figures are utilized. Carbon intensity is the amount of carbon emitted to produce each unit output of the country, so it is measured by the ratio of total carbon emissions to GDP for a country. With an analysis from this respect, it is observed that Russian carbon intensity throughout the independence had a declining trend especially in the period of 1999-2008 as could be seen from Figure 13. However, after 2008 there was a slight increase in the carbon intensity of Russia. According to Energy Sector Carbon Intensity, Russia was above the world average in the period of 1990-2003. However beginning from 2004, it has been recorded to be below world average.¹⁷⁵

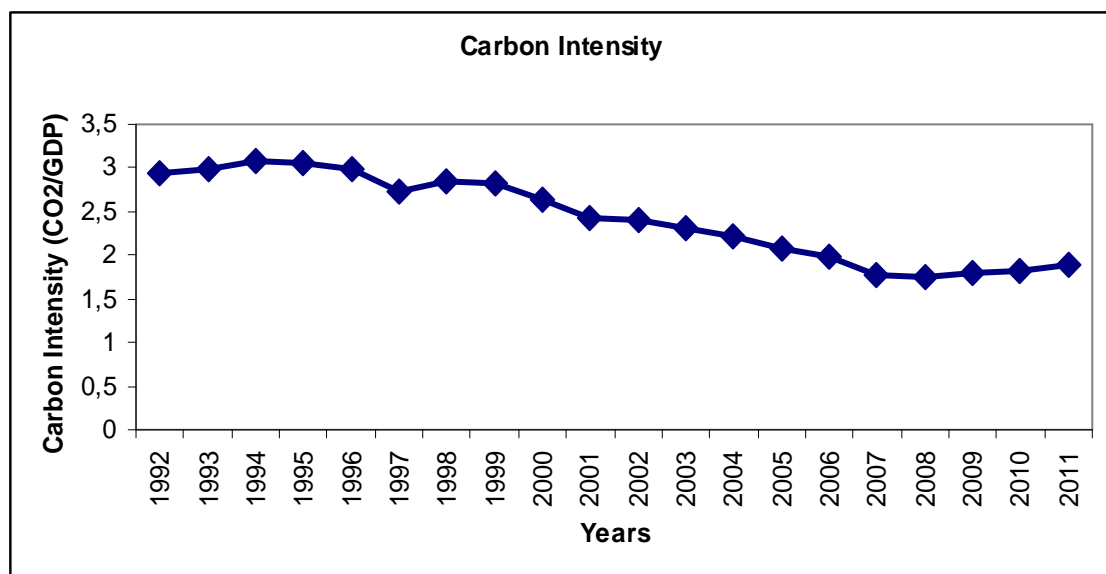


Figure 13: Russian GHG Emissions by Gas

Source: Based on the international energy statistics of EIA, 2014.

Russian industry to a large extent resting on Soviet era configurations has been getting obsolete by the time. Therefore, these old inefficient technologies have been

¹⁷⁵ IEA, "Energy Sector Carbon Intensity", 2013, (Accessed on 26/04/2014), (<http://www.iea.org/etp/tracking/esci/>),

replaced by the new efficient ones gradually. Even this gradual transformation gives a large potential for reduction of energy industry as a result of new efficient technologies. As a result there is a large potential for Russian industry to reduce its energy intensity. To illustrate, Russia has the largest potential for reducing its energy intensity in the iron and steel sector as compared to other major producers.¹⁷⁶ Under this circumstance, Russia could lessen its industrial carbon emissions as a result of reducing its energy intensity.

In addition, another indicator used to evaluate the extent of contribution of a country to global emissions per person – carbon emissions per capita – is applied. It is calculated by the division of a country’s total carbon emissions to its population. The change in the Russian carbon emissions per capita in the period of 1992 to 2011 could be seen from Figure 14. According to figure 14, Russian GHGs emissions per capita fell sharply after 1990 especially till early 2000s. From that on, despite some slight fluctuations, Russian GHGs per capita could be said to stabilize around 0.011-0.012 Gg CO₂ equivalent per capita.

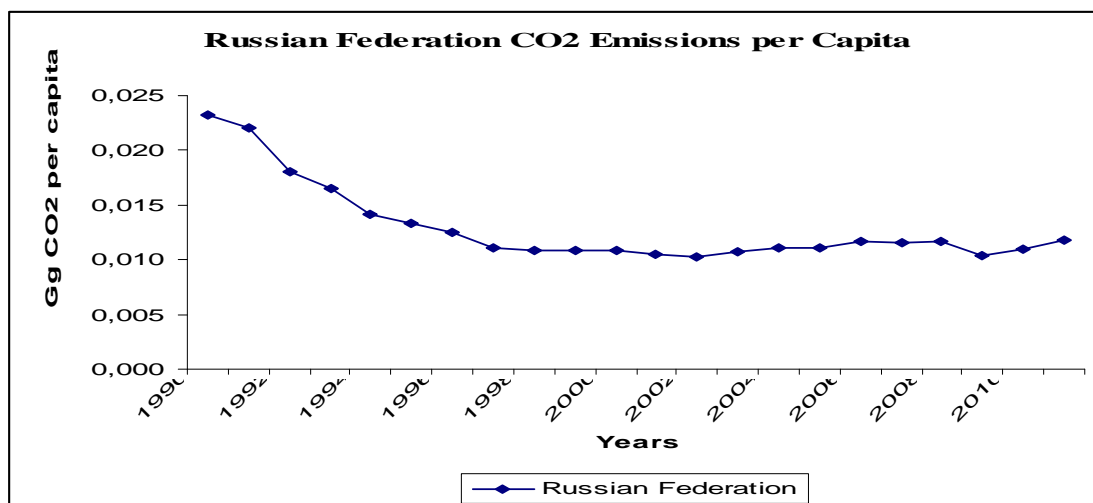


Figure 14: Russian CO2 Emissions per Capita, 1990-2011

Source: Calculated from UNFCCC, User Defined Indicators.

¹⁷⁶ World Energy Outlook 2013, p.247.

As well as the historical and current levels of GHGs emissions, the projections are substantially important to design politics related to climate change both at domestic and international level. Therefore, all countries prepare projections for their policy developments but rarely share the findings with the international community so that their negotiation positions would not be publicized by others. According to European Bank for Restructuring and Development (EBDR) calculations, presented in Figure 15, Russia is to keep its GHGs emissions 30% below 1990 levels in 2020 and 23% below 1990 levels in 2030 according to status quo scenario.¹⁷⁷ The decrease is thought to be resulted from the replacement of obsolete equipment and buildings with more efficient and cheaper ones.¹⁷⁸

In addition, if the market reforms for liberalization of gas and electricity prices were undertaken as another scenario alternative disclosed in EBDR work, the decrease would reach by 32% below 1990 levels in 2020 and 29% below 1990 levels in 2030 by enabling Russia easily attaining Copenhagen pledge for 2020.¹⁷⁹ Besides, according to the projections, if the carbon specific policies were applied such as carbon pricing; the GHGs emissions of Russia would fall by 38% below 1990 levels in 2020 and 45% below 1990 levels in 2030.¹⁸⁰ Although not very probable, provided that additional incentives were developed as well as economic reforms and carbon specific policies, emissions of Russia could be 41% below the 1990 levels in 2020 and 52% below 1990 levels in 2030.

Another estimation is put forward by International Energy Agency for CO₂ emissions of Russia for the period of 2010-2040, which predicts that an average annual

¹⁷⁷ EBRD, "Special Report on Climate Change: The Low Carbon Transition", March 2011, p. 49, (Accessed on 25/04/2014)
<http://www.ebrd.com/downloads/research/transition/trsp.pdf>

¹⁷⁸ Ibid.

¹⁷⁹ EBRD, "Special Report on Climate Change: The Low Carbon Transition"

¹⁸⁰ Ibid.

increase of 0.8% will be experienced.¹⁸¹ An additional striking estimation for worldwide GHGs emissions disclosed in Low Carbon Economy Index by Pricewaterhousecoopers (PWC) predicts that between the period of 2000-2050 Russia will be responsible only 3% of cumulative emissions while China, US, EU and India will constitute 28%, 16%, 105 and 9% respectively.¹⁸²

As a conclusion, under all scenario alternatives proposed, Russia has a large room for emission reductions even under the status quo scenario if the base year is determined as 1990. This path implies that Russia could easily undertake pledges or commitments in the context of climate change regime to a limited extent which are in compatible with its development targets provided that its expectations are met within the overall package.

Emission pathways under different policies in Russia

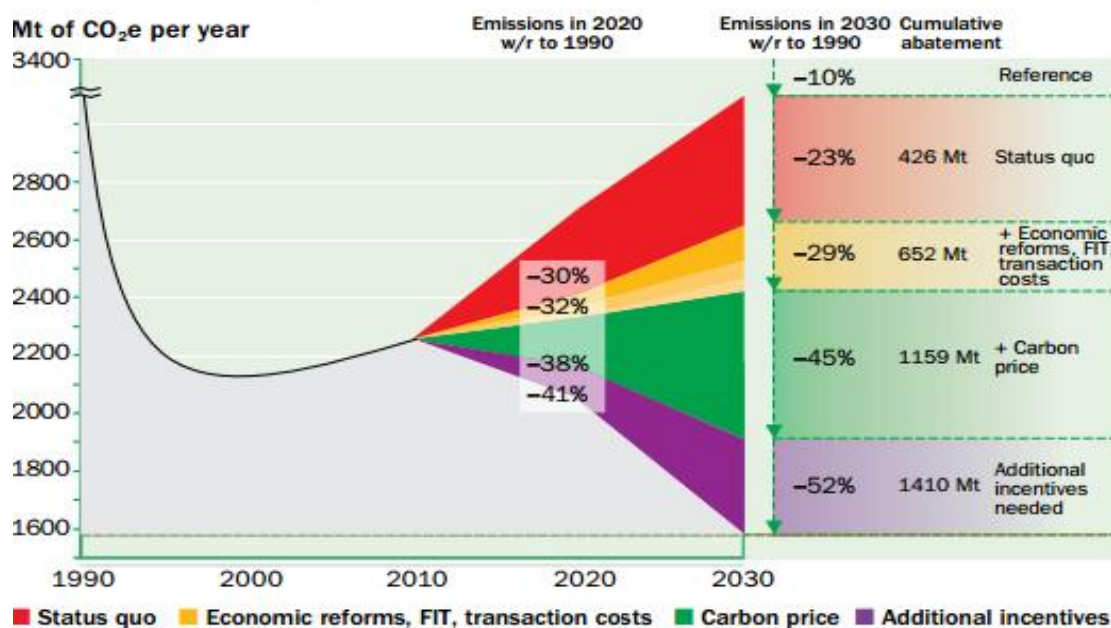


Figure 15: Russian GHGs Emission Projections Under Different Scenarios

Source: EBDR, *Low Transition Report 2011*, p. 49.

¹⁸¹ EIA, *International Energy Outlook 2013*, U.S Energy Information Administration, p. 162, [http://www.eia.gov/forecasts/ieo/pdf/0484\(2013\).pdf](http://www.eia.gov/forecasts/ieo/pdf/0484(2013).pdf), (accessed on 24/02/2014).

¹⁸² Low Carbon Economy Index 2009, Pricewaterhousecoopers, p.5

In order to assess the relative position of Russia as compared to other largest emitters, the changes in GHGs emissions of leading emitters are provided in Table 5, 6, 7 and Figure 16. The emission profiles of leading emitters from Annex I and BRICS countries are simultaneously compared with the emissions of Russia to reveal the contribution of each party to global emissions as well as to grasp the trend in the changes in their emissions. As it is seen from Figure 16, China surpassed the US and became the largest emitter in 2005. China is followed by the US, EU, India and Russia. The emissions of Annex I parties such as the US and Japan had an upwards trend while EU and Russia had a declining path. Especially, the fall in Russian GHGs emissions was very dramatic as compared to other Annex I parties although the other EIT countries such as Ukraine and Kazakhstan presented reduction in their emissions, too.

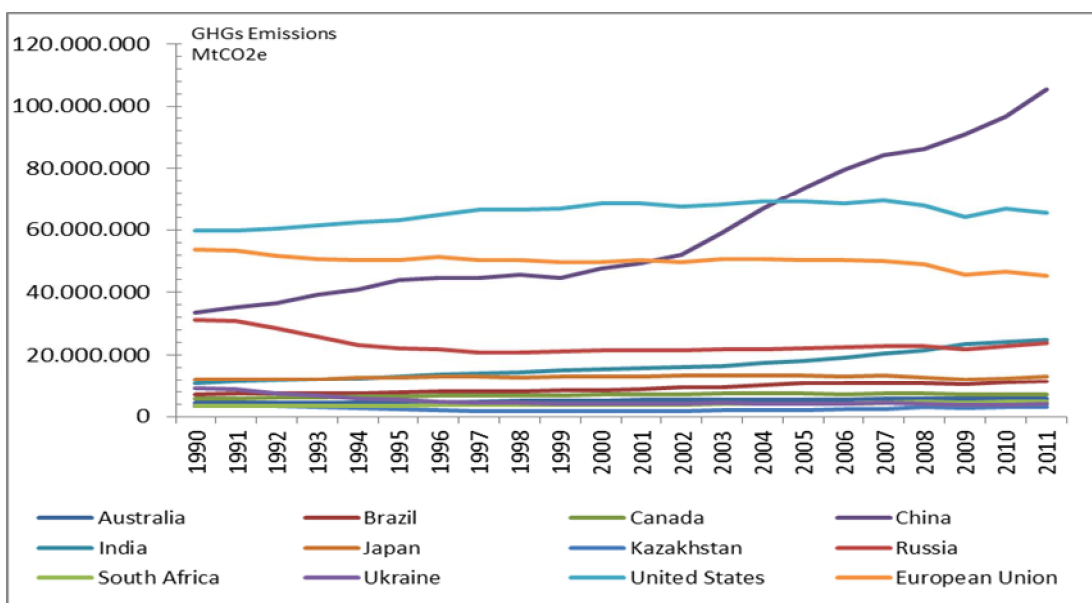


Figure 16: GHGs Emissions of Leading Emitters Excluding LULUCF (1990-2011)
Source: WRI, CAIT 2.0. 2014. *Climate Analysis Indicators Tool: WRI's Climate Data Explorer*. Washington, DC: World Resources Institute.

On the other hand the emissions of BRICS countries other than Russia increased substantially (Table 5, 6, 7 and Figure 16). Especially the increases in Chinese and

Indian emissions were drastic. Russia was the most successful country in terms of reducing its emissions among BRICS countries in the period.

Indeed it was the only BRICS country that could reduce its emissions. In the period of 1990-2011, Russia recorded a reduction of 51% in its GHGs emissions including LULUCF while European Union could achieve a reduction amount of nearly 20%, on country base, the United Kingdom could achieve a reduction of 29%, Germany 24%, and France 17%.¹⁸³

As to other important Annex I parties, it is seen that the United States increased its GHGs emissions 7.6 % whereas Canada increased 49% in the same period.¹⁸⁴ The change in cumulative GHGs emissions since 1990 reveals that the principle of 'common but differentiated responsibilities' can be interpreted in a different manner in the upcoming negotiations for the new climate change regime since China has surpassed the United States currently standing as the largest emitter.

Table 5: GHGs Emissions of Leading Emitters Excluding LULUCF (1990-1996)

	1990	1991	1992	1993	1994	1995	1996
Australia	4.260.611	4.245.663	4.253.874	4.270.340	4.310.762	4.389.746	4.542.262
Brazil	7.171.348	7.270.514	7.329.178	7.427.169	7.541.017	7.752.059	7.957.417
Canada	5.722.538	5.758.967	5.970.667	6.067.126	6.344.036	6.558.777	6.660.353
China	33.555.526	35.117.860	36.739.373	39.287.976	40.955.248	43.955.801	44.740.850
India	10.825.109	11.321.291	11.673.389	11.956.843	12.407.253	13.087.895	13.626.003
Japan	11.973.903	12.095.948	12.208.276	12.178.737	12.748.167	12.908.401	13.073.476
Kazakhstan	3.493.572	3.483.436	3.472.912	2.992.287	2.615.941	2.289.939	2.039.128
Russia	31.303.458	30.796.629	28.407.808	26.026.199	23.283.377	22.237.151	21.845.978
S.Africa	3.309.902	3.266.334	3.214.393	3.277.542	3.332.027	3.502.290	3.604.883
Ukraine	9.111.828	8.598.114	7.501.462	6.592.454	5.636.520	5.309.734	4.716.412
US	59.909.115	59.636.224	60.266.229	61.557.884	62.453.153	63.055.183	64.707.757
EU	53.848.334	53.335.195	51.714.170	50.666.119	50.304.708	50.472.301	51.462.015

Source: WRI, CAIT 2.0. 2014. Climate Analysis Indicators Tool: WRI's Climate Data Explorer. Washington, DC: World Resources Institute

¹⁸³ UNFCCC, 'GHG Data From UNFCCC', (Accessed on 05/06/2014)
http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php

¹⁸⁴ Ibid.

Table 6: GHGs Emissions of Leading Emitters Excluding LULUCF (1997-2003)

	1997	1998	1999	2000	2001	2002	2003
Australia	4.668.262	4.916.812	5.066.118	5.176.609	5.264.256	5.301.629	5.295.281
Brazil	8.139.922	8.217.070	8.307.819	8.412.069	8.874.931	9.261.752	9.575.959
Canada	6.775.821	6.780.127	6.819.687	6.980.580	6.925.748	7.028.662	7.290.036
China	44.584.596	45.490.356	44.701.639	47.541.743	49.231.968	52.153.327	59.059.134
India	14.153.995	14.348.928	15.107.161	15.536.674	15.769.404	16.224.038	16.630.934
Japan	13.021.394	12.653.855	13.049.142	13.199.648	13.013.382	13.336.036	13.375.934
Kazakhstan	1.784.720	1.784.091	1.638.028	1.599.377	1.585.416	1.702.218	1.874.705
Russia	20.808.154	20.677.246	21.057.063	21.453.667	21.498.668	21.506.161	21.854.512
South Africa	375.331	3.821.997	3.651.322	3.722.788	3.587.265	3.706.031	3.978.914
Ukraine	4.486.391	4.233.222	4.137.007	3.989.482	4.035.833	4.068.498	4.385.598
United States	66.496.512	66.387.506	66.662.907	68.581.174	68.324.547	67.544.981	68.252.274
European Union	50.474.871	50.386.411	49.605.183	49.604.984	50.190.824	49.771.790	50.658.602

Source: World Resource Institute, CAIT 2.0. 2014. Climate Analysis Indicators Tool

Table 7: GHGs Emissions of Leading Emitters Excluding LULUCF (2004-2011)

	2004	2005	2006	2007	2008	2009	2010	2011
Australia	5.405.428	5.410.278	5.465.498	5.573.741	5.606.730	5.685.651	5.606.356	5.634.540
Brazil	10.155.952	10.617.577	10.608.207	10.713.889	10.873.341	10.592.087	11.046.437	11.311.022
Canada	7.274.003	7.336.961	7.162.798	7.440.564	7.334.723	7.004.821	7.107.208	7.162.074
China	66.713.727	73.374.742	79.491.685	84.317.155	86.422.245	90.844.102	96.792.994	105.526.054
India	17.540.084	18.172.334	19.249.865	20.363.136	21.464.363	23.525.124	24.321.761	24.861.713
Japan	13.357.586	13.424.912	13.265.250	13.614.401	12.724.208	12.100.807	12.571.002	13.074.082
Kazakhstan	2.001.416	2.132.780	2.323.096	2.489.272	2.910.777	2.640.754	3.008.309	3.028.066
Russia	21.961.516	22.034.851	22.660.560	22.743.309	22.992.300	21.902.810	22.915.686	23.743.143
South Africa	4.157.893	4.099.196	4.120.655	4.392.822	4.683.590	4.500.983	4.582.913	4.568.534
Ukraine	4.218.295	4.160.023	4.215.068	4.258.285	4.169.096	3.617.070	3.808.901	3.954.137
United States	69.045.943	69.089.758	68.454.686	69.458.869	67.899.536	63.998.334	66.687.868	65.500.981
European Union	50.762.512	50.342.842	50.438.523	49.950.614	49.018.225	45.706.089	46.634.083	45.409.445

Source: World Resource Institute, CAIT 2.0. 2014. Climate Analysis Indicators Tool

On the other hand, the CO₂ emissions per capita for leading emitters are provided in Figure 17. Russia was the only Annex I country that substantially decreased its CO₂ emissions per capita except for the increase in 2010 to turn back pre-crisis levels. However, the figure of Russia is still above the leading EU countries such as United Kingdom and Germany and other BRICS countries while it is well below the ones of United States, Canada and Australia. The largest increase in CO₂ emissions per capita was realized by China in the period.

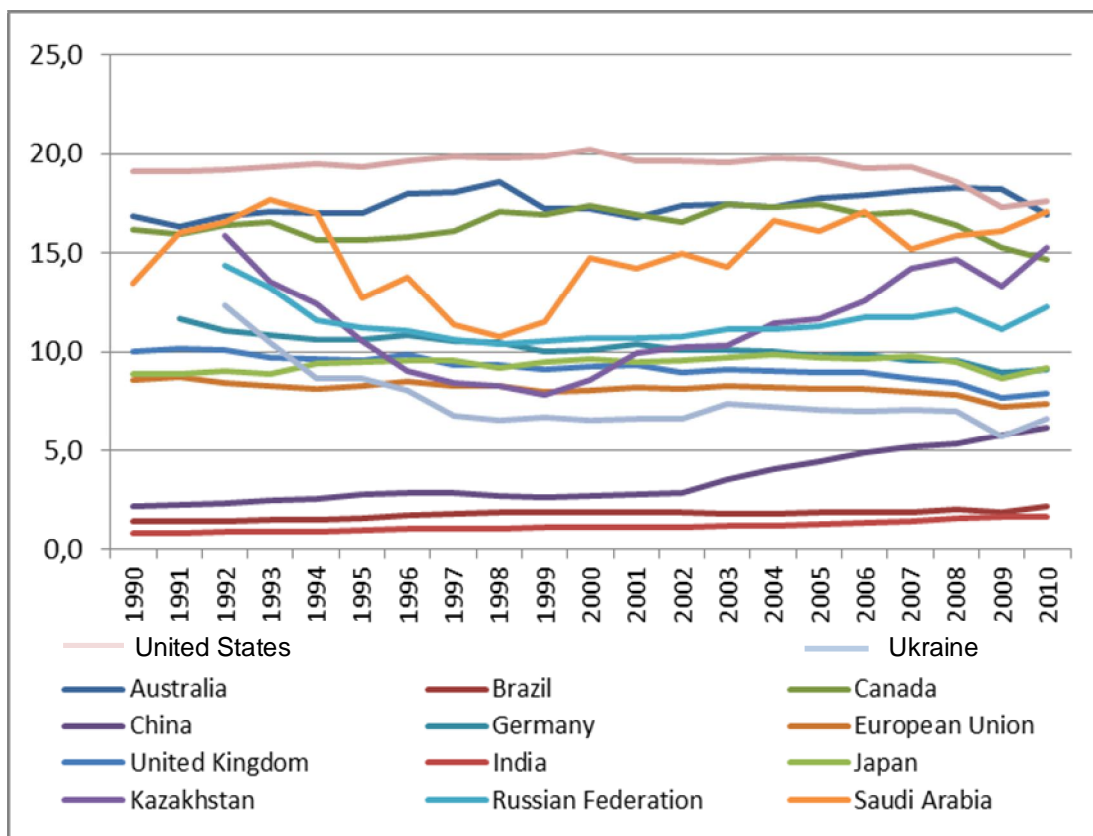


Figure 17: CO₂ Emissions per Capita for Leading Emitters in 1990-2010, including LULUCF

Source: Worldbank Data, CO₂ Emissions Per Capita

In order for making comments on the possible climate change policies of countries in the future, it would be valuable to assess the emission projections of them. According to World Energy Outlook (2013) New Policies Scenario total emissions will amount to 37.2 GtCO₂ by 2035.¹⁸⁵ In respect to the CO₂ emissions for the largest BRICS economies, from 2011 to 2035, despite a steady increase, Russian CO₂ emissions are expected to remain under considerably below 1990 levels.¹⁸⁶ As to the China, 2035 emissions are anticipated to be 30% higher 2011 levels, whilst Indian carbon emissions will increase by 3.4% per year in the period of 2011- 2035.¹⁸⁷ On the other hand emissions of Organization of Economic Cooperation and Development (OECD) countries that are listed in Annex I to the UNFCCC is expected to drop by 16% owing to saturation of energy demand and the impacts of policies endorsing energy efficiency and decarbonisation of the energy mix.¹⁸⁸

According to the projections of IEA, on the other hand, world total emissions will increase by 1.3% per year in the period of 2010-2040, while the annual increase is expected to be 0.0% in OECD Europe and the U.S, 0.8% in Russia, 2.1% in China, 2.3% in India, 1.8% in Brazil and 1.8% for all African countries.¹⁸⁹ The anticipated emission increases imply that especially developing countries will be possibly reluctant to take emission reduction or limitation commitments. However, because Russia is the most fortunate BRICS country with its relatively slow rate of GHGs emission projections, it has a large potential for mitigation if appropriate ambitious policies are implemented.

¹⁸⁵ IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p. 9

¹⁸⁶ *Ibid*, p. 23.

¹⁸⁷ IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p.25-26.

¹⁸⁸ IEA, World Energy Outlook 2013, "Chapter 2 Global Energy Trends to 2035", *International Energy Agency*, p. 82

¹⁸⁹ IEA, *International Energy Outlook 2013*, p. 162.

Hence, it is probably to be at an easier position to negotiate for new commitments within a new climate change regime.

3.5 Key Climate Policy Developments in Russia

In Russia there is somehow a complicated administration of environmental issues including the ones related to climate change, since these are under the authority of different agencies from different aspects. The Ministry of Natural Resources and Environment is the chief agency responsible for environmental policy development as well as coordinating the activities of Federal Service for Hydrometeorology and Environmental Monitoring, the Federal Service for the Supervision of Natural Resource Management, the Federal Agency for Water Resources and the Federal Agency for Subsoil Management.¹⁹⁰ The other relevant agencies for the environmental issues could be noted down as Ministry of Energy, Federal Service for Ecological, Technological and Nuclear Oversight, and the Ministry of Economic Development and Trade.¹⁹¹ In terms law making, the competent body is the Committee on Natural Resources, Environmental Management and Ecology of the State Duma develops environmental laws.¹⁹² Federal Service for Hydrometeorology and Environmental Monitoring is the responsible body to pursue international climate change negotiations while Ministry of Economic Development and Trade is responsible for the issues related to implementation of Kyoto Protocol.

There have been a number of policy developments in Russia either directly related to climate change or indirectly referring it. Not only all of these policies have been a result of Russia's consciousness for climate change posture at international and

¹⁹⁰ Natalya Piskulova, "Resource Efficiency Gains and Green Growth Perspectives in Russia", Friedrich Ebert Stiftung, September 2012, p.3.

¹⁹¹ Ibid.

¹⁹² Ibid.

domestic level but also to have a cost effective energy consumption pattern. Indeed, some scholars claim that Russian climate policies are made based on a very large set of issues beyond climate change.¹⁹³ With this respect, energy policies and strategies of the Russia should be carefully analyzed to capture the evolution of climate security and subsequent policies in response to changes in energy security notion. Accordingly, the outstanding Russian policy and measures in relation to climate change could be noted down as Energy Strategy of Russia for 2030, Climate Doctrine of Russia, Copenhagen Accord Pledge of Russia and Measures Stimulating Reduction of Atmospheric pollution by Products of Associated Gas Flaring, which are discussed in detail below.

The Energy Strategy of Russia was launched in 2003 by Ministry of Energy initially for the period till 2020 and later in 2009 it was extended to 2030. The objective of the strategy of Russia is to maximize the effective use of natural energy resources and the potential of the energy sector in order to sustain economic growth, improve quality of life, and strengthen Russia's foreign economic positions.¹⁹⁴

Indeed, reducing energy intensity of the economy is the foremost objective of the Russian energy policy.¹⁹⁵ The Strategy defines the aims of the Russian energy sector for long-term development together with its main concerns and relevant guidelines, along with the mechanisms of the state energy policy to guarantee the realization of specified objectives.¹⁹⁶ Specifically, the Strategy encompasses 56% percent energy intensity reduction target for 2030 in comparison to year 2005.¹⁹⁷ According to the strategy, this

¹⁹³ Andrzej Turkowski, "Russia's International Climate Policy", *The Polish Institute of International Affairs*, April 2012, No. 27.

¹⁹⁴ Ministry of the Energy of the Russian Federation, "Energy Strategy of Russia for the Period up to 2030", Moscow, 2010, p. 10.

¹⁹⁵ *Ibid*, p. 20.

¹⁹⁶ *Ibid*, p. 10.

¹⁹⁷ IEA, "Energy Strategy of Russia to 2030", Addressing Climate Change- Policies and Measures Database, (accessed on 16/4/2014)
<http://www.iea.org/policiesandmeasures/pams/russia/name.30175.en.php?s=dHlwZT1jYyZzdGF0dXM9T2s.&return=PGRpdjBjbGFzc0ic3ViTWVudSI->

target will be achieved in three stages: the first is a major renovation of the energy sector; the second stresses efficiency gains through new technology within the fuel and energy sectors; and the third emphasizes economy-wide energy efficiency¹⁹⁸

In fact, specifically in relation to climate change, following expected result was included in the strategy:

gradual limitation of the fuel and energy complex impact on the environment and climate by reducing pollutant emissions, wastewater discharge, greenhouse gases emissions as well as reducing energy production and consumption waste.¹⁹⁹

Although the stated objectives related to energy mix do not directly address the climate change problem, the reduction of the energy intensity of the country in turn lead to a reduction in the carbon intensity of the country, which is a favorable indicator for tackling with the climate change problem. Moreover, a vision to increase the share of renewable energy in the energy mix is a climate beneficial preference.

The Climate Doctrine of Russia could be evaluated as the first policy specifically dealing with the climate change related policies and accepted as a very positive step by international community for reflecting the motivation of the country to combat with the climate change. It was approved by the Decree of the President of the Russian Federation of December 17, 2009 N 861-p and accompanied by the Directive No. 730-p of the Government of the Russian Federation, as a Comprehensive Implementation Plan

[PGRpdiBjbGFzc20iYnJlYWRjcnVtYnMiPjxhIGhyZWY9Ii8iPkludGVybmF0aW9uYWwgRW5lcmd5IEFnZW5jeSZ6d25qOzwvYT4mbmJzcDsmZ3Q7Jm5ic3A7PGEgaHJJZj0iL3BvbGljaWVzYW5kbWVhc3VyZXMvIj5Qb2xpY2llcyBhbmQgTWVhc3VyZXM8L2E-Jm5ic3A7Jmd0OzxiIGhyZWY9Ii9wb2xpY2llc2FuZG11YXN1cmVzL2NsaW1hdGVjaGFuZ2UvaW5kZXgucGhwIj4mbmJzcDdtDbGltYXRlIENoYW5nZTwwYT4mbmJzcDsmZ3Q7Jm5ic3A7U2VhcmNoIFJlc3VsdDwwZG12PjwvZG12Pg,,](#)

¹⁹⁸ International Energy Agency, "Energy Strategy of Russia to 2030",

¹⁹⁹ Ministry of the Energy of the Russian Federation, "Energy Strategy of Russia for the Period up to 2030", Moscow, 2010, p. 14.

of the Climate Doctrine of the Russian Federation for the period up to 2020 on 25 April 2011.²⁰⁰

The doctrine was also of special importance in the sense that it admitted climate change officially as a human induced phenomenon for the first time in Russian history.²⁰¹ It entails six broad sections dealing with different aspects of climate policy. Those sections are general provisions, goal and principles of climate policy, the climate policy, distinctive features of the Russian Federation that need to be taken into account in addressing the climate change problem, implementation of the climate policy and executors of climate policy.²⁰² The Doctrine stipulates the possible negative consequences of climate change for the country, delineates broad mitigation strategies, last but not least recognizes climate change as a national security threat.²⁰³ Thus, it was aimed that the Doctrine would become a scheme to bring together domestic climate-related legislation with international standards, advance climate monitoring, inspire the adoption of resilient environmental standards and the adoption of measures for energy-efficiency besides wider use of alternative energy sources including renewable ones.²⁰⁴

With that respect, Doctrine set a number of targets in a variety of areas. For instance, Russia aimed to diminish the share of natural gas in energy production to 46% - 47% by 2030 while expanding the capacities of nuclear power plants in two fold.

²⁰⁰IEA, "Climate Doctrine of the Russian Federation", Addressing Climate Change- Policies and Measures Database, (accessed on 16/4/2014)
<http://www.iea.org/policiesandmeasures/pams/russia/name,24702,en.php?s=dHlwZT1jYyZzdGF0dXM9T2s>

²⁰¹ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 620.

²⁰² IEA, "Climate Doctrine of the Russian Federation",

²⁰³ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 621.

²⁰⁴ IEA, "Climate Doctrine of the Russian Federation"

Additionally, the share of renewable energy sources in electricity production is planned to increase to: 1.5% by 2010, 2.5% by 2015 and 4.5% by 2020.²⁰⁵

There are a number actions defined within the Doctrine to be undertaken to develop and implement the policy such as founding legal and regulatory frameworks; developing economic instruments to facilitate the implementation of adaptation and mitigation actions measures; advancing the scientific knowledge and cooperating at international level on the subject of adaptation and mitigation measures.²⁰⁶ Those actions are planned to be held on the basis of federal, regional and sectoral level. Furthermore, in order to realize the implementation of the doctrine, the "Comprehensive Plan for Implementing the Russian Federation's Climate Doctrine for the Period until 2020" was approved by a government decree in 2011.²⁰⁷

The implementation of the Doctrine was unique in the sense that as a result of the new approach the Ministry of Economic Development and Trade introduced climate induced risks into the macroeconomic forecasts as well as identifying various actions for different sectors of the economy with specified time periods and specified responsible agents.²⁰⁸ For example, it includes measures for increasing energy efficiency, production of hybrid cars, building zero energy consuming houses and introducing a domestic GHGs emissions trading system.²⁰⁹

To conclude, Climate Doctrine could be evaluated as the most striking development in the Russian history in the context of climate change since it was the first time Russia acknowledged the anthropogenic climate change and the threats of it to the security of the country and accordingly attempted to plan mitigation and adaptation

²⁰⁵ IEA, "Climate Doctrine of the Russian Federation"

²⁰⁶ Ibid.

²⁰⁷ Ibid.

²⁰⁸ Natalya Piskulova, "Resource Efficiency Gains and Green Growth Perspectives in Russia", p.5.

²⁰⁹ Ibid.

policies to deal with it. These all together could bring about net benefits for the economy as a whole.

In Copenhagen, December 2009, as a result of the 15th session of the Conference of the Parties (COP15) of the United Nations Framework Convention on Climate Change (UNFCCC) Parties made GHGs emission reduction pledges to ensure the goal of limiting the global average temperature increase below 2°C above pre-industrial levels in the context of Copenhagen Accord, which never being adopted but only could been taken note of. Therefore, the Copenhagen Accord had non-binding commitments of Annex I Parties to realize quantified economy-wide emissions targets for 2020.

Russia, as an Annex I Party to the UNFCCC, in the context of Copenhagen Accord, delivered his target by stating that it will reduce its GHG emissions by 15-25% by 2020 compared to the 1990 level.²¹⁰

Even time passed over the announcement of pledges, Russia did not lose its ambition on Copenhagen Accord. To attain this level of GHGs emissions, renewables should be developed in the country. For that aim, a new legislation- a decree- was passed for an incentive program to advance renewable energy production, intending 6 gigawatts of new capacity in solar and hydro energy so as to increase the share of renewable energy to 2.5% in power generation by 2020 from the current level 0.8%.²¹¹

In spite of the fact that foremost reason of GHGs emissions is carbon combustion in Russia like in most of the countries on earth, other GHGs emissions also contribute to the emissions.

For instance, one of the largest sources of Russian GHGs emissions is CH₄ from leaks in the oil and gas diffusion systems and CO₂ emissions from the flare of related

²¹⁰ IEA, "Climate Doctrine of the Russian Federation"

²¹¹ Marc Roca, "Russia Approves Subsidy Program to Boost Renewable-Energy Output", *Bloomberg* May 24, 2013. (Accessed on 11/05/2014)
<http://www.bloomberg.com/news/2013-05-24/russia-approves-subsidy-program-to-boost-renewable-energy-output.html>

gas.²¹² To deal with emissions due to flaring Russian authorities adopted a resolution (On the Measures Stimulating Reduction of Atmospheric pollution by Products of Associated Gas Flaring) to limit the associated gas flaring by 5% in 2009²¹³ Moreover, in 2012 Russian government passed a more rigorous formula for calculations the fines as a base for incentives to discourage flaring.²¹⁴

Hence, upon the harvesting results of these measures, Russia could possibly reduce its emissions of other GHGs other than CO₂.

3.6 Conclusion

In this chapter climate related indicators and the policies developed by Russia as a response to climate change are discussed in detail. The indicators assessed having a close relation with climate change are economic indicators, energy indicators and GHGs emission indicators.

Among economic indicators, the most important indicator is economic growth because of the fact that the need for energy in a growing economy increases which in turn lead to increase in GHGs emissions. It is observed that Russia recorded a rapid growth period after 1992 with the exception of two crises periods experienced in 1998 and 2009. However the increase in economic growth was not matched by increasing emissions due to fact that emission levels for Russia was set artificially high. Moreover, in the first decade of the independence Russia faced a general economic decline because of the transition period it experienced which in turn resulted in emission reductions. On the other hand beginning from 2009 Russian GHGs emissions increased in a parallel fashion to its economic growth. Nonetheless, the recent increase in Russian GHGs emissions is still limited as compared to increase in emissions of other large emitters

²¹² IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p.24.

²¹³ Ibid.

²¹⁴ Ibid.

such as China and India. Actually for an evaluation of the period since 1990, Russia was successful as staying below 1990 levels similar to EU where it had a target of stabilization at 1990 levels. Likewise, the performance in terms of the reduction in carbon emissions per capita figures, Russia has been more successful than most of other Annex I Parties.

On the other hand, with respect to energy, the backbone input of economic production, as it is presented in this chapter Russia is extremely rich by ranking 1st, 6th and 2nd in terms of gas, oil and coal endowments respectively. Previously discussed continuous growth of the country has been achieved with the help of these energy resources both as an input for economy and as income generating with excessive export revenues. Although rich in hydrocarbon resources Russia did not have exponential increase in its GHGs emissions as a result of its industrial structure and more reliance on relatively cleaner natural gas. As for GHGs emissions, as pointed out before, felt considerably in 1990s and increased moderately in 2000s, are expected to stay below 1990 levels through 2030. Besides Russia developed a number of policies directly or indirectly aiming to respond climate change challenges such as Energy Strategy to 2030, Climate Doctrine, Copenhagen Accord Pledge and Measures Stimulating Reduction of Atmospheric Pollution by Products Associated Gas Flaring, which are also probably to contribute mitigation efforts of the country.

All these policies add to the capacity of Russia in the process of mitigating its GHGs emissions and thereby contributing to the limitation of its projected emission increases. Furthermore, its relative stance among other large emitters are better in terms of a number of dimensions which give Russia a leverage to defend its position in climate change negotiations which will be discussed in the coming parts in a more detailed way.

In the next chapter the evolution of Russian stance with respect to international climate change regime will be discussed.

CHAPTER 4

RUSSIA AND INTERNATIONAL CLIMATE CHANGE REGIME

4.1 Introduction

In this chapter, Russia's historical stance with respect to international climate change regime by underlining the legal status of Russia with respect to UNFCCC and Kyoto Protocol and accompanying liabilities are framed. Moreover, its negotiation position in past Conference of Parties for both operational and strategic issues with specific emphasis on Kyoto ratification and Copenhagen processes together with its priorities for the new climate change regime are discussed within this chapter.

4.2 Russia and UNFCCC

Russia as a new and young state adopted a rather positive and constitutive approach towards international cooperation and organizations in order to be recognized as a new but powerful state in the international arena at the beginning of the 1990s. In the similar fashion, Russia practiced a very ambitious period in 1990s in terms of participation to international environmental cooperation. As an example of her active stance and courage, Russia signed the United Nations Framework Convention on Climate Change (UNFCCC) on 13 June 1994 together with the other leading countries as a new Post-Soviet state²¹⁵ and shortly after ratified the Convention in harmony with its post-communist foreign policy seeking involvement in international institutions.²¹⁶ Russia tried to take part in the multilateral process related to climate change because; in

²¹⁵ UNFCCC, "Russian Federation" (accessed on 17/03/2014)
<http://maindb.unfccc.int/public/country.pl?country=RU>

²¹⁶ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 616.

very simple terms, it desired to be recognized as a fundamental player in the international arena.

With regard to UNFCCC, Russia was included among the Annex I countries to the Convention with other industrialized countries that were members of the Organization for Economic Co-operation and Development (OECD) as of 1992 and countries with Economies In Transition (the EIT Parties). Nonetheless, she was excluded from Annex II countries as other Economies in Transition (EIT) Parties were done, thereby had no responsibility for providing financial and technological support for non-Annex I countries.²¹⁷ Actually, Russia ratified the Convention on 28 December 1994.²¹⁸ After her support for the UNFCCC process, the role that Russia played in international climate change regime consolidated with the improvement in her bargaining power.²¹⁹ Especially Russia's ratification for the Kyoto Protocol was a milestone for the international climate change regime that is discussed in the subsequent part.

If one should analyze the negotiation path within UNFCCC, the Party Groups are encountered very commonly. Traditionally, parties are divided into five regional groups (African States, Asian States, Eastern European States, Latin American and the Caribbean States, and the Western European and Other States) primarily for the purposes of electing the Bureau in United Nations.²²⁰

However, these regional groups generally do not reflect the concerns of each Party within the group so other groupings are more crucial for the sake of negotiations. From time to time, Russia has been negotiating under the Umbrella Group, which is a coalition of non-EU developed countries formed following the adoption of the Kyoto

²¹⁷ UNFCCC, List of Annex I Countries to the Convention (accessed on 17/03/2014)
http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php

²¹⁸ UNFCCC, Russian Federation (accessed on 17/03/2014)
<http://maindb.unfccc.int/public/country.pl?country=RU>

²¹⁹ Nikitina Elena, "Russia: climate policy formation and Implementation during the 1990s", p. 291.

²²⁰ The group of "Other States" include Australia, Canada, Iceland, New Zealand, Norway, Switzerland and the United States of America.

Protocol and usually made up of Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the US.²²¹ This group comprises mostly the countries with large historical contributions with respect to GHG emissions that advocating the participation of all large emitters to a new but rather flexible climate change regime. Yet, from time to time Russia has pursued the negotiations apart from the Umbrella Group with regard to its interests under some subtopics.

As an Annex I Party, Russia has some reporting and review requirements under the Convention related to national communications encompassing information basically on national GHGs inventories with projections, climate related policy and measures.

4.3 Russia and Kyoto Protocol

Since the Convention did not specify quantified emission targets for combating the climate change, a need arose for a new legal binding institution to realize that aim. Therefore, as explained in the chapter 2, after exhausting negotiations, Kyoto Protocol was opened to signature in 1997 which brought about individual quantified emission commitments for most of the Annex I countries that were listed in Annex B and for the coverage of gases that were disclosed in Annex A of the Protocol.²²² After a long negotiation period, Russia signed the Protocol in 2004 forming it as an Annex B country with a commitment for stabilizing the GHGs emissions at the level of base year 1990 in the period of 2008-2012.²²³ The terms of commitment that was allowed for Russia were one of the most advantageous deals of the Kyoto Protocol, with stabilizing her emissions at base year 1990 level, Russia had an opportunity to increase her emissions by 34%

²²¹ UNFCCC, "Part Groupings" (accessed on 18/04/2014)
https://unfccc.int/parties_and_observers/parties/negotiating_groups/items/2714.php

²²² UNFCCC, "Kyoto Protocol"

²²³ Ibid.

until 2012²²⁴ or to trade a large part of its allowances through the flexibility mechanisms in return for economic proceeds.²²⁵ This relative advantage stemmed from the reduction in Russian GHGs emissions by approximately 30% as compared to 1990 levels at the time of signature. Hence, Russia could raise its carbon dioxide emissions considerably without violating the mandate that enclosed for her in the Kyoto Protocol.²²⁶

In addition, because of the huge capacity of Russia's inefficient industrial sectors for further emissions reductions, Russia could be the largest seller of carbon credits on the global market.²²⁷ To illustrate, as of 2001, Russia was estimated to have potential annual income from the sale of its carbon credits at an amount of ranging from 4 billion US Dollars (USD) to 35 billion USD yearly.²²⁸ As such, Russia appeared to be a potential beneficiary of Joint Implementation (JI) program, one of the Kyoto flexibility mechanisms, in which Annex I countries can acquire emissions credits by investing in another Annex I country for reducing emissions or enhancing removal by carbon sinks.

However, ratification process was not an easy task for Russia. In order to make a decision for the ratification great debates were held in Moscow. There were a number of reasons why Russia delayed the ratification for. These could be written down basically as the bargaining advantage of Russia after the withdrawal of the United States from the Protocol and the skepticism of Russian scientists for the climate change.

²²⁴ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 616.

²²⁵ Nikitina Elena, "Russia: climate policy formation and Implementation during the 1990s", p. 303.

²²⁶ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image", *Global Environmental Politics*, 2007, Vol. 7, p. 49.

²²⁷ *Ibid*, p. 50.

²²⁸ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto protocol: seeking an alignment of interests and image", *Global Environmental Politics*, 2007, Vol. 7, p. 50

Especially the withdrawal of the United States from the Protocol in 2001 increased the Russia's bargaining leverage.²²⁹ The bargaining leverage originated from the fact that in accordance with Article 23, the Protocol could enter into force on

the ninetieth day after the date on which not less than 55 Parties to the UNFCCC, incorporating Parties included in Annex I which accounted in total for at least 55 % of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession.²³⁰

Therefore, Russia sought for other areas where she could make use of it for attaining wider foreign policy purposes thanks to the above mentioned bargaining leverage related to ratification process originated from its enormous level of emissions. For instance, The Russian Ministry of Economy and Trade and other relevant bodies utilized the ratification issue successfully for assuring European Union support for World Trade Organization membership of Russia.²³¹

Another reason for the delay in ratification process was originated from the skepticism of Russian scientists for human induced climate change metaphor. Although, there were clear benefits for Russia to ratify the Kyoto, since the leading economic and scientific advisors of Putin were sceptic about the reasons for climate change, Russia delayed ratification for a long time.²³²

For instance, Yuri Izrael, Director of the Russian Academy of Sciences's Global Climate and Ecology Institute, and Andrei Illarionov, the president's chief economic adviser, were two influential characters resisting the proposed economic benefits of the

²²⁹ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 616.

²³⁰ UNFCCC, "Status of Ratification of the Kyoto Protocol", (Accessed on 22/03/2014). https://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php

²³¹ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 616.

²³² Ibid.

ratification.²³³ Izrael questioned whether or not climate change is drastically resulted from anthropogenic factors and tried hard to persuade the president Putin for not to ratify the Protocol by arguing climate change did not have a scientific validity and the protocol would turn out to be ineffective.²³⁴ As to the Illarionov, he developed an economic model and accordingly projected that Russian GDP would double during the Kyoto Protocol period which would result in increased GHGs emissions of Russia in a way that would pass the 1990 levels. Based on his model, he claimed that

ratification of the Kyoto Protocol will force Russia's economic actors to face a dilemma: either acquisition of emissions quotas on the external market, or a necessary slowdown (cessation) of economic activity.²³⁵

As opposed to the views of Israel and Illianov, there were various opposite ideas within the country claiming that climate change was a scientific reality that should be addressed at the international level and Kyoto Protocol would not be a threat for Russian economy.²³⁶ For example, Dudek et al. discussed the economics of Kyoto Protocol for Russia based on various forecast scenarios for Russian GDP growth and GHGs emissions.²³⁷ According to their findings the possibility for Russia to exceed its Kyoto limits was zero²³⁸ and there would be clear economic benefits from sale of the emission

²³³ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image", *Global Environmental Politics*, p. 50.

²³⁴ Ibid.

²³⁵ Illarionov, A., and N. Pivovarova. 2004. Economic Consequences of the Russian Federation's Ratification of the Kyoto Protocol (Ekonomicheskie posledstviia rati'katsii Rossiiskoi Federatsii Kiotskogo protokola). *Voprosy ekonomiki* 11, p.57 cited in Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto protocol: seeking an alignment of interests and image" *Global Environmental Politics*, 2007, Vol. 7, p. 51.

²³⁶ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto Protocol: Seeking an Alignment of Interests and Image", p. 50-51

²³⁷ Daniel J. Dudek, Alexander A. Golub, and Elena B.Strukova, "Economics of the Kyoto Protocol for Russia", *Climate Policy*, 2004, Vol. 4, p.130.

²³⁸ Ibid, p.129.

quotas and from increased demand for Russian natural gas exports together with health benefits derived from a decline in conventional pollutants.²³⁹

After a contentious period due to those considerations related to ratification, Russia could ratify the Kyoto Protocol only on 18 November 2004 and the Protocol could into force on 16 February 2005²⁴⁰ due to the fact that the 55 % of the total carbon dioxide emissions for 1990 of the Parties included in Annex I had become ratified it.

All in all, it could be argued that Putin delayed the ratification to clarify evidence about gains versus losses from Kyoto provisions and to secure concessions from other Kyoto ratifiers in other international negotiations.²⁴¹ Nonetheless, by ratifying the Protocol Putin presented that Russia was a giant determinative state on such a high politics issue.

4.4 Russia and Other Milestones in Climate Change Regime

In terms of Russian position at international climate change negotiations, there was not a smooth route. After a long delay for the ratification Kyoto Protocol, Russia actively elaborated on the disparity between the Annex I and non-Annex I country Parties. For Russia, in terms of international climate change negotiations, one of the most important problems has always been to assure the maintenance the principle of common but differentiated responsibilities (CBDR).²⁴² Russia has always asserted that all large emitters should have taken actions to mitigate their emissions, which means that developing countries such as India, China and S. Arabia should have taken quantified

²³⁹ Ibid, p.137-139.

²⁴⁰ UNFCCC, "Status of Ratification of the Kyoto Protocol",

²⁴¹ Laura A. Henry and Lisa McIntosh Sundstrom, "Russia and the Kyoto protocol: seeking an alignment of interests and image",

²⁴² CBDR is one of the five fundamental principles of UNFCCC. For full list of principles please refer to: https://unfccc.int/essential_background/convention/background/items/1355.php

economy wide emission reduction targets. For that aim, Russia made several attempts to reflect her point to the current regime at UNFCCC platform. For instance, in 2006 at COP 12 in Nairobi, Kenya; Russia submitted her proposal that urged the need for incorporating the voluntary emission reductions of developing country Parties to the Kyoto Protocol by verbalizing it as "to adopt the draft of the procedures and mechanisms related to the approval of voluntary GHG emissions limitation or reduction commitments by the Parties not included in Annex I to the Convention".²⁴³ Nevertheless, the issue was announced to be further considered in the next sessions of the negotiations by the President as a result of the relevant consultations with the Parties.²⁴⁴ In 2007, some parties such as Japan, Canada, Australia and New Zealand made submissions supporting Russia's view whereas some other such as India, China, S. Arabia strongly resisted to the Proposal of Russia.²⁴⁵ In addition, a workshop related to this issue was held in Bonn and as a conclusion Russia was invited by the COP President to introduce the relevant elements of her Proposal.²⁴⁶ However, Russia did not take concrete steps on this issue. As a result, it preferred to forward the discussion to Copenhagen negotiations.

²⁴³ UNFCCC, "Report of the President on consultations concerning the proposal of the Russian Federation to develop appropriate procedures for the approval of voluntary commitments. Submission from a Party (FCCC/KP/CMP/2006/L.6), (Accessed on 22/06/2014), <http://www4.unfccc.int/submissions/SitePages/sessions.aspx?showOnlyCurrentCalls=1&populateData=1&expectedsubmissionfrom=Parties>.

²⁴⁴ Ibid.

²⁴⁵ UNFCCC, "Views on the proposal by the Russian Federation for the development of appropriate procedures to enable Parties to the Kyoto Protocol to adopt voluntary commitments. Submissions from Parties and a Party/observer State (FCCC/KP/CMP/2006/MISC.2) and (FCCC/KP/CMP/2006/MISC.2/Add.1), (accessed on 22/06/2014) <http://www4.unfccc.int/submissions/SitePages/sessions.aspx?showOnlyCurrentCalls=1&populateData=1&expectedsubmissionfrom=Parties>.

²⁴⁶ UNFCCC, "Conclusions on the report of the President on consultations concerning the proposal of the Russian Federation. Proposal by the President (FCCC/KP/CMP/2007/L.9), available at: <http://unfccc.int/resource/docs/2007/cmp3/eng/109.pdf>, (accessed on 22/06/2014)

Apart from the initiatives of Russia to amend the commitment disparity between developed and developing countries, one of the important steps taken by Russia was her announcement for making emission reductions an amount of 15-25 % till 2020 before and during COP 15 at Copenhagen in Denmark in 2009.²⁴⁷ Russia in fact presented a rather constructivist approach at COP 15 where Parties tried to determine a new climate change regime for post 2012 period. However, because no COP decision adopted only taken note of at Copenhagen, Russia was not obliged to realize this pledge although it tried to match it.

Russia reactivated its negotiation priorities at COP 17 in Durban, South Africa in 2011, with a new proposal she made for a complete amendment in the annexes of the Convention instead of her previous efforts to deal with the commitments of the non-annex I Parties. Accordingly, Russia proposed an amendment to article 4, paragraph 2 (f), of the United Nations Framework Convention on Climate Change by asserting her point as follows:

a further review of amendments to the lists in annexes I and II shall be conducted on a periodic basis, as determined by the Conference of the Parties, until the objective of the Convention has been achieved.²⁴⁸

Ukraine, Belarus and Kazakhstan supported the Russian proposal whereas S. Arabia opposed; as a result of informal consultations, upon request of Russian delegation, COP President clarified that constructive discussions had been experienced on legal, political and other implications of the proposal and noted that additional time was required to consider the proposal; thus, Parties agreed to comprise the item on the

²⁴⁷ UNFCCC, "Appendix I - Quantified economy-wide emissions targets for 2020, available at: http://unfccc.int/meetings/copenhagen_dec_2009/items/5264.php, (accessed on 26/03/2014)

²⁴⁸ UNFCCC, "Proposal of the Russian Federation to amend article 4, paragraph 2 (f), of the United Nations Framework Convention on Climate Change (FCCC/CP/2011/5), (accessed on 23/06/2014) <http://unfccc.int/resource/docs/2011/cop17/eng/05.pdf>

provisional agenda for COP 18.²⁴⁹ The more positively involvement in climate cooperation by Russia at the COP 15 in Copenhagen in 2009, completely changed at COP 17 in Durban in 2011. It explicitly joined to some other Annex I countries such as Japan and Canada in opposing a second commitment period under the Kyoto Protocol.

Moreover, Russia undertook intense negotiations for transferring her surplus emission credits of which she derived from Kyoto Protocol first commitment period. Especially at COP 18 in Doha, Qatar, Russia was insistent on carrying these surplus emission credits beyond 2012. However, since it had explained that it would not take commitments in the second commitment period of Kyoto Protocol, the period between 2013- 2020; especially developing country parties opposed Russia's demand for transferring surplus reserve accounts. After long sessions of negotiations, the issue was resulted in the decision package paragraph 23-27 in the manner that only the signatories of the second commitment period of Kyoto could issue and use credits under flexibility mechanisms such as Joint Implementation (JI) and Clean Development Mechanism (CDM).²⁵⁰ The only possible way to utilize the surplus Assigned Amount Units (AAU) from the first period of Kyoto Protocol was to utilize them for the purposes of national compliance for the period 2013-2020.²⁵¹ It was not allowed for Parties to transfer these amounts beyond 2020 by no means.²⁵² With this respect, Russia would not be able to use its surplus amounts since it rejected to take part in the second commitment period. In response to the attempt of the COP President Abdullah Bin Hamad al Attiyah (Qatar), Russian, Ukrainian and Belarusan delegation tried to veto the decision package.

²⁴⁹ International Institute for Sustainable Development, "Summary of the Doha Climate Change Conference: 28 November - 11 December 2011", *Earth Negotiation Bulletin*, 2012, Vol. 12, No. 534, p. 4.

²⁵⁰ UNFCCC, "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eighth session, held in Doha from 26 November to 8 December 2012 (FCCC/KP/CMP/2012/13/Add.1.)"

²⁵¹ Ibid.

²⁵² Ibid.

However, the COP President explained that the decision had been adopted despite the common procedure of decision making was "by consensus" since 1992, which angered and disappointed the Russian delegation bitterly. Russia was dissatisfied with the agreed outcome of the COP 18 at Doha Climate Change Conference. Because of the fact that the President adopted the decision in spite of the veto of Russia, Ukraine and Belarus where the decisions should have been taken by consensus, Russia proposed to include the issue of rules of procedures in the agenda in Subsidiary Body of Implementation (SBI) meeting in June at Bonn. However, especially G-77 and China strongly opposed to open the discussion on the rules of procedures.²⁵³ During two weeks of discussions and consultations no consensus emerged on the issue and because of the fact that agenda had not been not adopted, the other lines of negotiations under SBI could not be realized.²⁵⁴

Surprisingly, just prior to COP 19 on September 30, 2013; the presidential decree (No. 752) on climate change was delivered announcing that the Government of Russian Federation would "provide by 2020 reducing amount of emissions of hotbed gases to level no more than 75 percent of amount of the specified emissions in 1990."²⁵⁵ Meanwhile, Russian delegation was persuaded to proceed by adding a new agenda item prior to COP 19 in Warsaw, Poland. At Warsaw, the legal problems related to decision making was discussed very extensively by the Parties but no agreed outcome on this issue was reached.²⁵⁶

As discussed above, Russia did not play a stable role in international climate change negotiations. It was sometimes constructive in a positive manner and sometimes

²⁵³ IISD, "Summary of the Bonn Climate Change Conference: 3-14 June 2013", Vol. 12, No. 580, p. 29, (accessed on 14/06/2014) <http://www.iisd.ca/download/pdf/enb12580e.pdf>,

²⁵⁴ Ibid.

²⁵⁵ Commonwealth of Independent States Legislation Database, "Presidential Decree of Russian Federation from September 30, 2013 of No. 752. (Accessed on 12/05/2014) <http://cis-legislation.com/document.fwx?rgn=64110>

²⁵⁶ IISD, "Summary of the Warsaw Climate Change Conference: 11-23 November 2013", Earth Negotiation Bulletin, 2013, Vol. 12, No. 580, p. 1-32, (accessed on 16/06/2014), <http://www.iisd.ca/download/pdf/enb12594e.pdf>.

obstructionist.²⁵⁷ For example, as opposed to her leadership for Rio, she was quite slow for the signature and ratification of Kyoto Protocol. It is of great curiosity to recognize how the Russia will behave in upcoming negotiation rounds for a new climate change regime because of its importance for total GHGs emissions.

4.5 Conclusion

In this chapter, Russia's position in terms of international climate change regime is discussed. At first, Russia's relatively positive attitude towards the international cooperation for the formation of UNFCCC is highlighted. Accordingly, Russia's long and difficult decision to ratify the Kyoto Protocol by distinguishing between two dominant views one seeing it as an opportunity while other evaluating as a threat for the Russian economy are discussed.

Furthermore, Russia's advocacy for a new and dynamic climate change regime aiming for reflecting the changing capabilities of countries with respect to their current development stages is detected in successive negotiation rounds. In the detailed analysis of Russia's position in negotiation rounds, the unstable position of it on climate change negotiations is emphasized. Besides, the start of a new phase where Russia tries to be rather "decisive" is pointed out. With this aim, it is demonstrated how Russia caused a deadlock in June 2013 in Bonn, just after the negligence of its denial for the adoption of Doha Package, which brings disadvantages for transferring its emission credits to second commitment period of Kyoto and beyond. Moreover, in each session under all relevant bodies of the UNFCCC, Russia has been observed to take the floor to explain its views on various topics insistently recently. This attempt of Russia all together illustrates the efforts of Russia to be decisive Party for the new climate change agreement deal.

In the next chapter the factors that shape the strategies of Russia with regard to international climate change negotiations will be discussed.

²⁵⁷ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 615.

CHAPTER 5

STRATEGIES OF RUSSIA IN CLIMATE CHANGE NEGOTIATIONS

5.1 Introduction

In this chapter in an attempt to recognize the prospects for Russian policies on climate change negotiations, the factors which have shaped Russian position so far are analyzed extensively. These factors are either related to economic goals of the country or related to strategic motives of it especially in the international arena and could be noted down as GHGs emission projections of the country, domestic policy developments on climate change in the country, prospects for energy demand security for Russian oil and natural gas, foreign policy objectives of the country and climate change negotiation positions of other leading emitters. In addition, observed or detected key priorities for Russia in terms of design purposes of the new climate change regime are emphasized at the end of the chapter.

5.2 Factors Shaping Russia's Position in New International Climate Change Regime

There are a number of underlying factors related to either domestic or international issues both within and outside of climate change context that affect the formation of Russian negotiation position. These are the GHGs emission projections of Russia, the domestic policy development on climate change in Russia, the energy demand security for Russian oil and gas, foreign policy objectives of Russia and the negotiation positions of other leading emitters.

5.2.1 GHGs Emission Projections of Russia

As it is discussed in chapter 3, Russia will continue to grow in the middle term around 3%²⁵⁸, yet as thanks to its energy efficiency strategies and other transformation policies in both energy and industry with specific quantified targets, the energy demand for Russia will not be as high as the economic growth. Indeed, the demand for natural gas, the largest component of Russian energy mix²⁵⁹, will raise gradually (0.6% per year) due to enhanced efficiency and a shift towards market-based pricing will hold down demand growth.²⁶⁰ Moreover, the energy mix of Russia, which includes almost no renewable energy sources, may incorporate renewables in the future since, as discussed before, the country has a great potential for renewable energy and it developed targets to increase the share of renewables in electricity production in the context of Climate Doctrine as discussed in Chapter 3.²⁶¹

When all these issues are taken into account, Russian GHGs emissions are expected to be grow by 0.8 % annually²⁶² but expected to be still below 1990 levels through 2035²⁶³. Moreover the annual growth rate of Russian emissions, despite being larger than that of EU and US, still well below that of China and India. These altogether enable Russia flexible enough to negotiate for emission reductions with respect to new climate change regime that will in affect after 2020.

Additionally, Russia will most probably enjoy the reduction in its energy intensity of economy in the referred period since its GDP growth will be larger than its

²⁵⁸ Economic Intelligence Unit, "Russia Country Report".

²⁵⁹ IEA, "Russia", March 2014.

²⁶⁰ IEA, World Energy Outlook 2013, p.63.

²⁶¹ Eric Martinot, "Energy Efficiency and Renewable Energy in Russia", Energy Policy, Vol. 26, no. 11, p. 908.

²⁶² EIA, International Energy Outlook 2013, p. 162

²⁶³ European Bank for Restructuring and Development, "Special Report on Climate Change: The Low Carbon Transition", p. 49.

energy demand and thereby its GHGs emission increases.²⁶⁴ Thus, Russia can also negotiate other forms of commitments alongside emission reductions in climate change negotiations.

Another point that should be underlined is that based on its GHGs emission projections, it is clear that Russia can end up with a large portfolio of emission credits with a moderate commitment in post 2020 climate change regime just like it did in the period of Kyoto. Therefore, it can enjoy new market mechanisms that will be constructed within the new climate change regime. So, Russia might desire to take part in the formation of new market based mechanisms so that it can maximize its gains from the new regime.

5.2.2 Domestic Policy Developments on Climate Change in Russia

Russia developed a number of domestic policies to tackle with climate change either directly or indirectly. With the help of these policies Russia could reduce its GHGs emissions more than the estimations enclosed in the status quo scenario. Especially Energy Strategy to 2030 incorporates policy targets for increasing energy efficiency; energy intensity reduction, enlarging the share of renewables and enlarging the nuclears in energy production energy production can provide generous opportunities for mitigation.²⁶⁵

On the other hand, Climate Doctrine is very ambitious in the sense that it includes various objectives to launch legal and regulatory frameworks and economic instruments to smooth the progress of implementation of adaptation and mitigation

²⁶⁴ GDP growth for Russia is expected to be around 3% according to EIU projections which are enclosed in chapter 2 and GHGs emissions will grow by 0.8% annually according to IEA estimations.

²⁶⁵ Energy Strategy of Russia to 2030 discussed in chapter 2.

actions.²⁶⁶ With Climate Doctrine non carbon energy resources in energy production are aimed to be increased.

Furthermore, the Copenhagen pledge for emission reduction by 15-25% by 2020 compared to the 1990 level²⁶⁷ reaffirms the current capacity of the country to undertake economy wide emission reduction commitments in the coming period.

Moreover, the measures to limit the gas flaring other than CO₂ will contribute to the emission reduction efforts of country.²⁶⁸

On the other hand, though limited, there are some opportunities originated from climate change for Russia. For instance some authorities, academic community and society which are still on the view that climate change could bring about positive effects for Russia, actually mentioned in the discussion of the ratification of Kyoto Protocol in the previous part of this chapter. These people base their arguments on Climate Doctrine which based upon IPCC 4th Assessment Report which points out reduced necessitate for heating, resulting in a decrease in energy consumption, larger potential for agricultural harvests at higher altitudes and the launch of the northern sea routes besides new potential for extraction of energy resources in the Arctic regions.²⁶⁹

However, because international cooperation on climate change did not produce the expected results, having only 50-66% chance of meeting the 2 °C target by 2020,²⁷⁰ a new climate change regime with moderate modalities will not prevent Russia to attain the opportunities aroused with the global warming. Hence, Russia will not refrain itself

²⁶⁶ IEA, "Climate Doctrine of the Russian Federation",

²⁶⁷ Ibid.

²⁶⁸ IEA, *CO₂ Emissions From Fuel Combustion- Highlights, Recent Trends in CO₂ Emissions From Fuel Combustion*, p. 24.

²⁶⁹ Andrzej Turkowski, "Russia's International Climate Policy", *The Polish Institute of International Affairs*, April 2012, No. 3.

²⁷⁰ Michel G.J. den Elzen and Andries F. Hof, Mark Roelfsema, "The emissions gap between the Copenhagen pledges and the 2 °C climate goal: Options for closing and risks that could widen the gap", *Global Environmental Change*, Vol. 21, 2011, p. 733.

to compromise a global solution the climate change since it is highly improbable to end up with a very ambitious agreement.

5.2.3 Energy Demand Security for Russian Oil and Natural Gas

Energy is an important factor for policy making in climate change because the foremost reason of climate change is CO₂ emissions derived from the combustion of hydrocarbon resources namely oil, natural gas and coal. Therefore the demand and supply patterns of a country's energy resources have a number of implications for climate change policies. At that point, the notion of 'energy security' appears to be a valuable basis to make interferences for Russian future energy policies. Luft & Korin asserts that

energy security means different things to different countries based on their geographical location, their geological endowment, their international relations, their political system and their economic disposition.²⁷¹

Therefore, energy security means different things for an energy producing, an energy consuming and a transit state.²⁷² In other words a country, which is a net energy exporter, will approach in a different way to energy security than a country which is a net energy importer. Hence, for an energy exporting (supplier) state energy security could be defined as sustainable demand at the possible highest price.

In turn, the priority of an energy exporter state in the context of climate change will be to sustain its exports with the possible maximum proceedings. Jack Sharples argue that 'the coming decades could see Russia's energy security increasingly influenced by climate-change action policies undertaken by current importers of Russian

²⁷¹ Gal Luft and Anne Korin. *Energy Security Challenges for the 21st Century: A Reference Handbook*. Santa Barbara, CA: Praeger Security International, 2009. p 5

²⁷² Marcus Svedberg, 'Energy in Eurasia. Dependency Game' *Transition Studies Review* Vol. 4, No.1, 2007, p. 196.

gas such as the EU, and potential importers such as China and India.²⁷³ Therefore we can turn our attention to the projections for demands for Russian gas in the future to see how Russian energy security will be affected.

According to International Energy Agency (IEA) projections in New Policies Scenario²⁷⁴ total world energy demand enlarges by one-third from 2011 to 2035, where the demand increases for oil by 13%, coal by 17% (primarily before 2020), natural gas by 48%, nuclear by 66% and renewables by 77%.²⁷⁵ Nonetheless, the share of fossil fuels in primary energy demand is estimated to be around still 76% in 2035.²⁷⁶ Besides, this structure of demand increase, where the fossil fuels maintaining their importance, demonstrates that Russia will enjoy the increased demand for its main export products such as natural gas and oil and possibly for coal, since it ranks as the 1st with respect to natural gas endowment and 6th with respect to oil reserves while it is the 2nd in terms of coal reserves.²⁷⁷ The largest consumer of Russian natural gas, the EU, will stay as the largest gas importer but by returning its 2010 levels through 2035.²⁷⁸ Besides, Russian gas exports to EU are possible to surge when Russia's immense reserves, widespread pipelines and advantageous geographic position are considered.²⁷⁹ The sustainability of EU demand for Russian gas confirms that Russia will not experience any energy security

²⁷³ Jack Sharples, 'Russian Approaches to Energy Security and Climate Change: Russian Gas Exports to the EU', *Environmental Politics*, Vol. 22, No.4; 683.

²⁷⁴ The central scenario of IEA for energy projections, hence, all the projections discussed in this chapter based on New Policies Scenario.

²⁷⁵ IEA, *World Energy Outlook 2013*, p.55.

²⁷⁶ *Ibid*, p.58.

²⁷⁷ BP *Statistical Review of World Energy*, 2013, p.6, p. 20 and p. 30

²⁷⁸ IEA, *World Energy Outlook 2013*, p.55.

²⁷⁹ EU Directorate General for External Policies, 'Policy Briefing: EU and Russian Policies on Energy and Climate Change', DG EXPO/B/PolDep/Note/2013_308, December 2013, p.1-30, available at [http://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2013/522304/EXPO-AFET_SP\(2013\)522304_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2013/522304/EXPO-AFET_SP(2013)522304_EN.pdf), (accessed on 18/06/2014)

problem in terms of the demand from its largest customer despite very strict measures and policies taken by EU to combat with climate change by increasing the renewables in its energy mix.

Furthermore, IEA estimates that emerging economies will make up more than 90% of total energy demand growth, which will be derived by China till 2020 then by India for Asia region.²⁸⁰ China alone will constitute almost 40% of global energy demand growth from 2011 to 2025.²⁸¹ This shows that expected rapid economic growth in Asia will bring about more demand for energy especially for India in the coming decades since it will accelerate its economic growth around the end of this decade. Thus, Russia might increase its energy exports to Asia as well as preserving its market in Europe. Indeed the increases in demand of natural gas enclosed in projections of IEA confirm the expectation for a new larger market in Asia for Russian exports.

On the other hand, Russia's policies towards Arctic region have some security implications for energy and climate change policies. Russia holding almost half of Arctic coast, has the largest claim for the unexplored oil and natural gas reserves nearly constituting 13% of world's undiscovered oil and a larger part of gas reserves.²⁸² Furthermore, offshore drilling brings about various environmental concerns including short-lived low carbon emissions.²⁸³ Despite increasing emissions in Arctic, since these emissions will not affect materially the expected decrease or stabilization in GHGs within the current calculation and accounting principles for the projections of Russia, a new climate change regime even with some commitments from Russia will not deteriorate the energy security of Russia.

²⁸⁰ IEA, World Energy Outlook 2013, p.55.

²⁸¹ Ibid, p.67.

²⁸² EU Directorate General for External Policies, "Policy Briefing: EU and Russian Policies on Energy and Climate Change", p.26

²⁸³ Ibid, p. 27.

5.2.4 Foreign Policy Objectives of Russia

Russia has utilized the issue of climate change as a foreign policy deal since the Rio Earth Summit which was held in 1992. Formerly, it signed UNFCCC in 1992 to demonstrate itself as a new but a powerful and constructive state and it used the ratification of Kyoto Protocol as a bargain tool for WTO membership with the EU as discussed in the first part of this chapter.

Hence, in the similar way, it might utilize the new international climate change negotiations as an opportunity. For example, it might aim to impair its relations with G 8 group from which it was ousted very recently due to its policies towards Ukraine in the case of annexation of Crimea to itself.²⁸⁴ Since almost all G 8 members, thanks to their well endowment for implementing mitigation and adaptation policies, call for a new international climate change regime where all leading emitters take their responsibilities, hence they will desire to provide the support of Russia such a process since it is the fifth largest emitter. Based on these advantages, Russia could trade off its cooperation for new climate change regime in order to mend its fences with G 8 members.

Moreover, since all policies including climate change are traditionally elite driven in Russia²⁸⁵, it is highly probable that these elites might direct President Putin to use the climate change negotiations as a tool to reinforce the superpower image of Russia by reflecting the country as a global power which seeks a solution to the climate change problem.

All in all, Russia will enjoy utilizing climate change policies to achieve foreign policy objectives when its rather unrestricted position on GHGs emissions is considered.

²⁸⁴ For the details of omission of Russia from G8 related to its policies towards Crimea please see: http://www.nytimes.com/2014/03/25/world/europe/obama-russia-crimea.html?_r=0

²⁸⁵ Liliana B. Andonova and Assia Alexieva, "Continuity and change in Russia's climate negotiations position and strategy", p 620.

5.2.5 The Climate Change Negotiation Positions of Other Leading Emitters

While Russia was included Annex I to the Convention with other developed country parties such as the US, Japan and EU, all BRICS countries other than Russia were included in non-Annex I for the purposes of the Convention and accordingly not included in Annex B to the Kyoto Protocol.²⁸⁶ Therefore the negotiation bases of these countries differentiate between Russia and the others, which is reflected in the negotiation groups those countries take part.

Whilst BRICS countries except for Russia are members of G-77 and China and BASIC Group, Russia negotiates mostly within the group of Umbrella. Umbrella group has negotiated for the issues such as the flexibility mechanisms, measurement, reporting and review, LULUCF and as well as initiating a debate on developing country commitments.²⁸⁷ All developed country parties of Annex-I of the Convention other than EU included in Umbrella Group such as Australia, Canada, Japan, New Zealand, Norway and the US. The Umbrella Group strongly defends commitments for also non-Annex I Parties similar to the main argument of Russia. Hence a consolidated and uniform stance of the Group to impose commitments for all parties to the Convention would appeal Russia to support the final package for post 2020 climate change regime.

As for BRICS positions at international climate change negotiations, although there are some works implying as the BRICS countries as a homogenous group of countries against the developed countries with the same priorities and interests for the

²⁸⁶ For full list of non-Annex I to the Convention and annex B to the Protocol see respectively: United Nations Convention on Climate Change, "List of Non-Annex I Parties to the Convention." (Accessed on 22/03/2014) https://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php and United Nations Convention on Climate Change, "Kyoto Protocol." Accessed on 22/03/2014) https://unfccc.int/kyoto_protocol/items/3145.php

²⁸⁷ Farhana Yamin and Joanna Depledge. *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*, p. 46.

purposes of climate change negotiations like the recent paper by Rafael Arcas²⁸⁸; BRICS countries vary according to their priorities and thereby negotiation positions where the largest divergence arises between Russia and other BRICS countries. All BRICS countries except for Russia indeed are a member of G-77 and China Group.²⁸⁹

However, G-77 and China is such a huge and diverse group, comprising both developing and least developed countries from non-Annex I Parties to the Convention, with varying interests for different aspects of climate change negotiations, there are also sub negotiating blocks having members from G-77 and China. To illustrate, BRICS countries other than Russia formed the BASIC to pursue their similar interests for various negotiating topics under the climate change negotiations.²⁹⁰

BASIC Group has been influential for the negotiations in designing the new climate change regime. For instance, the outcome of COP 2015, the Copenhagen Accord, was mainly a consequence of the rapprochement between the BASIC Group and the U.S.²⁹¹ As a result of the ambitious stance of BASIC Group in Copenhagen, the members announced voluntary targets in the form of reducing carbon intensity or deviation from the business as usual scenarios. However, cracks started among the views of group members in Cancun at COP 16.²⁹² The dynamism within the BASIC group was not very high during the COP 17 in Durban in 2011, hence the group did not make any official submission for COP 17, while during COP 18 in 2012 in Doha the Group took the floor several times to deliver their views on various issues. BASIC Group clearly stressed that the Ad Hoc Working Group- Durban Platform for Enhanced action (AW-

²⁸⁸ Rafael Leal Arcas, 'The BRICS and Climate Change', *International Affairs Forum*, 2013.

²⁸⁹ G-77 and China Group, a negotiating block not only for the purposes of UNFCCC but for also facilitating other United Nation bodies, was formed originally with 77 members in 1964 and currently has 133 members. For full list of members and further details please see: <http://www.g77.org/>

²⁹⁰ Xinran Qi, 'The Rise of BASIC in UN Climate Change Negotiations', *South African Journal of International Affairs*, Vol.18, No.3, 2011, p.302.

²⁹¹ *Ibid*, p.307.

²⁹² *Ibid*, p.311-312.

ADP) is not the place for renegotiate, rewrite or reinterpret the Convention.²⁹³ During COP 19, BASIC Group was reiterated its point on the structure and design of the new agreement must align with the principals of the Convention which defines differentiation between developed and developing parties.²⁹⁴ This point particularly demonstrates that the members will not accept their current responsibilities for the concentration of the GHGs emissions in the atmosphere as a result of their changing capacities. This is quite consistent of the negotiation position of the group. The main priority of BASIC group has always been to defend the historical UNFCCC division between developing countries, together with the major emerging economies, and developed countries and for that aim the group insisted on the second Kyoto Commitment Period.²⁹⁵

To be more concrete, the BASICs have located themselves as maintaining the principles of the Convention, with the aim of putting the responsibility more on developed countries to force them for a larger contribution in tackling with climate change.²⁹⁶ In order to realize their goal, they often stress the foremost principals of the Convention such as "common but differentiated responsibilities", "historical responsibilities" and "equity". Nevertheless, eventually, cooperation among BASIC countries can be harmed by fundamental discrepancies like the possible shift of the Brazil's position since it could be the more favorable energy and GHGs profiles of the country as compared to China to insist on strongly on imposing the burden only on Annex I parties. Viola and Franchini explained this probability as follows: "Recent shifts in public opinion and the interests and influence of economic sectors suggest that

²⁹³ IISD "Summary of the Doha Climate Change Conference: 28 November - 8 December 2012", *Earth Negotiation Bulletin*, p. 16.

²⁹⁴ UNFCCC, "Statements at ADP Sessions" (Accessed on 15/05/2014) <https://unfccc.int/bodies/awg/items/7544.php>

²⁹⁵ Stephan Minas, "FPC Briefing: BASIC Positions-Major Emerging Economies in the UN Climate Change Negotiations", *Foreign Policy Center*. (Accessed on 13/05/2014) <http://fpc.org.uk/fsblob/1560.pdf>

²⁹⁶ *Ibid.*

the Brazilian position will tend to converge towards those of the European Union, Japan and South Korea.²⁹⁷

Developed countries have differing enthusiasm in their efforts to tackle with climate change. For instance, EU has put great effort so far to combat with climate change by changing its energy mix, promoting renewables and lessening its GHGs emissions gradually. In climate change negotiations provided the greatest impetus and it was the only Party defending unconditional emissions reduction targets.²⁹⁸ Indeed, climate change is the most prominent era in which EU leadership was set among other environmental negotiations.²⁹⁹ Naturally it is the most voluntary player to conclude with an inclusive and ambitious climate change regime for post 2020 period. It has already announced that it will reduce its GHGs emissions by 40% by 2030 as compared to 1990 level.³⁰⁰ Therefore, EU will insist on the conclusion of new regime with the rather strict rules and obligations applicable to all Parties.

The US has always opposed committing to GHGs emission reductions since the launch of the climate change negotiations and retained its position almost same throughout the negotiation rounds trying to promote flexibility.³⁰¹ However with announcement of reducing its carbon emissions by 30% from 2005 levels till 2030³⁰²; it

²⁹⁷ Eduardo Viola and Matias Franchini "Social Transformation and Climate Policy in Brazil", in *Feeling the Heat- The Politics of Climate Policy in Rapidly Industrializing Countries*, edited by Ian Bailey and Hugh Compston, Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, p. 198.

²⁹⁸ Subhabrata Bobby Banerjee, "A Climate for Change? Critical Reflections on the Durban United Nations Climate Change Conference", *Organization Studies*, 2012, Vol. 33, No. 12, p. 1780.

²⁹⁹ Sebastian Oberthür and Claire Roche Kelly, "EU Leadership in International Climate Policy: Achievements and Challenges", 2008, *The International Spectator: Italian Journal of International Affairs*, Vol.43, No.3,p.35.

³⁰⁰ EU, "2030 Climate and Energy Goals for a Competitive, Secure and Low-carbon EU Economy." *European Commission Press Release Database*, IP/14/54, 22/01/2014 *EUROPA*, available at http://europa.eu/rapid/press-release_IP-14-54_en.htm (Accessed on 20 June 2014)

³⁰¹ Subhabrata Bobby Banerjee, "A Climate for Change? Critical Reflections on the Durban United Nations Climate Change Conference", p. 1780.

³⁰² Wendy Koch, "EPA Seeks 30% Cut in Power Plant Carbon Emissions by 2030." *USA Today*. Gannett, 03 June 2014. (Accessed on 20/06/2014)

is close to compromise an inclusive solution for the climate change problem by underlining the need for a regime reflecting the dynamics and realities of countries current capacities.

As a conclusion Russia will continue to pursue its interest within the Umbrella Group by arguing commitments from all parties to the Convention even the group will gather around Russian proposal defending dynamic responsibilities. At that point, the more frequent are the efforts for avoidance by developing Countries from commitments especially by BRICS members other than Russia, the more insistent will be Russia to argue for a new dynamic system. The extent of Russia's ambition to defend its interests became apparent in when it blocked Bonn talks in June 2013 simply by rejecting the agenda.³⁰³ The determination of Russia to bring about responsibilities for other developing countries lies beneath the fact that among other BRIC countries Russia has the largest room/potential to lessen its emissions by implementing only economically sensible measures.³⁰⁴ In sum, Russia might cooperate with EU and the US to conclude with a new climate regime when its domestic policy developments are considered.

5.3 The Priorities of Russia for New International Climate Change Regime

Russia could play a significant role in global collective efforts to tackle with the climate change in terms of reducing GHGs emissions when its geographical magnitude, vast forestland and energy intensive structured economy with old and rather inefficient technology are taken into account.³⁰⁵ Indeed, when the amount of its GHGs gases taken

<http://www.usatoday.com/story/money/business/2014/06/02/epa-proposes-sharp-cuts-power-plant-emissions/9859913/>

³⁰³ Bloomberg, "UN Global Warming Talks Blocked by Russia Set Back Six Months" (Accessed on 07/06/2014) <http://www.bloomberg.com/news/2013-06-14/climate-talks-failure-risks-2015-deadline-on-emissions-pact-1-.html>

³⁰⁴ Mc Kinsey & Company, "Pathways to an Energy and Carbon Efficient Russia", 2009, p. 3.

³⁰⁵ Ibid.

into account, Russia's pledge would be vital for post 2020 international climate change regime with binding emission targets.

Yet, there are a number of priorities for Russia related to matters for the accounting rules of the agreement. In this regard, Russia attaches great importance to matters related to transfer of carbon credits from Kyoto period, accounting rules for carbon sink capacities of its forests and the base year that will be taken into consideration within the new climate regime.

To begin with carbon credits that Russia enjoyed from first commitment period of Kyoto Protocol is estimated to amount nearly 5.8 billion tons with value of \$US 40-60 billion.³⁰⁶ Although Russia could not transfer the credits from first commitment period of Kyoto to second commitment period because it did not take commitments in the second commitment period with the decision taken at COP 18 in Doha, Qatar; it is unclear how these credits could be treated in post 2020 period. Therefore, if Russia could transfer these unused credits beyond 2020 it would be able to create economic gains given the projections pointing out stabilization for GHGs emissions till 2035. As a result, Russia will try to transfer these credits to post 2020 period with an active manner in negotiations which it proved in March 2012 in Bonn with its blockage the meetings as a reaction to its resistance for the adoption of Doha decisions for surplus amounts with a violation of the consensus rule for decision making.

Another issue that will shape the decision of Russia for post 2020 period is related to its ability to change the accounting rules for land, land use and land use change (LULUCF) that could take into account its carbon stores and sinks.³⁰⁷

Perhaps the most important dynamic that will affect the Russia's decision on new regime related to accounting rules is the choice of base year. Because of the fact that Russia has artificially huge amount of emissions in the year 1990, it enabled to

³⁰⁶ Point Carbon, "Carbon 2012 - Return of the sovereign," Tvinnereim, E. and Røine, K. (eds.), 2012.

³⁰⁷ Elena Lioubimsteva, "Russia's Role in the Post-2012 Climate Change Policy: Key Contradictions and Uncertainties," *Forum on Public Policy*, 2010, Vol 3, p.13.

accumulate a large portfolio of emission credits for sale by decreasing its emissions. Hence the determination of the base year in the new regime is fairly significant for Russia, it will insist on adoption of 1990 as the base.³⁰⁸ However, as well as Russia other large emitters like EU will defend the adoption of 1990 as the base ³⁰⁹ it is highly probable that Russia will not experience much problem from this aspect.

Hence, as long as these priorities are met, Russia would be more volunteer to take part in the context of new climate change regime as well as its relatively favorable projections for the GHGs emissions are considered.

5.4 Conclusion

In this chapter it is argued that the most influential factors in the age of formation of Russian climate change negotiation policies are GHGs emission projections of the country, domestic policy developments on climate change in the country, prospects for energy demand security for Russian oil and natural gas, foreign policy objectives of the country and climate change negotiation positions of other leading emitters. These factors all demonstrate varying degree of potential for Russia with respect to taking binding emission reduction pledges. furthermore, if the priorities of Russia such as preserving 1990 as baseline for new commitments, transferring its excess credits from Kyoto period and accounting its all LULUCF capacity, Russia will be closer to compromise on a new climate change regime.

Hence, when all these factors are combined so as to assess the capability of Russia in terms of mitigation and adaptation activities; it is observed that Russia is at ease to take quantified emission reduction targets provided that some priorities in terms of design of the new agreement are met such as the determination of baseline and transfer of surplus credits from Kyoto period.

³⁰⁸ Ibid, p.7.

³⁰⁹ Ibid, p.25.

CHAPTER 6

CONCLUSION

This thesis analyzed the climate change policies of Russia in order to identify the dynamics behind its strategies with respect to post-2020 climate change regime. This thesis argued that contrary to the views of scholars who consider Russia's position on climate change as low profile, this thesis argues that Russia seeks to play a decisive role in the formation of a new regime on climate change since it is able to assume new responsibilities and able to adopt its economic structure to a low carbon emission model. The following findings that support this argument are disclosed in this thesis.

As presented in Chapter 2, climate change problem began to take great attention from the international community as a global problem especially after 1970s and international negotiations started in order to address the issue. As a consequence of these developments, United Nations Framework Convention on Climate Change was concluded in 1992 in the Rio Earth Summit by differentiating the responsibilities among developed and developing countries within its annexes. Developed country parties and economies in transition were included in Annex I, the list of countries responsible for putting efforts to limit emissions, since they had contributed more to the cumulative GHGs emissions as of 1992 and thereby they should have done more to combat with climate change while developing country parties were included in non-Annex I Parties with almost no responsibility. Furthermore, a subset of annex I countries were included in annex II and urged to grant financial assistance, technology transfer and capacity building supports to non-Annex I countries.

Subsequently, Kyoto Protocol was finalized as an international agreement in 1997 which brought about economy wide quantified emission reduction targets for Annex I Parties that were included Annex B of the Protocol. The first commitment period of Kyoto Protocol covered 2008-2012 and because the negotiations for a new

climate change agreement for post 2012 failed in Copenhagen in 2009, a second commitment for Kyoto Protocol for the period 2013-2020 was adopted in Doha in 2012 after successive round of negotiations. However, the ambition was not very high in the second commitment period of Kyoto. As well as the United States; Canada, Japan, New Zealand and Russia announced that they would not take any commitments for the second commitment period. Since 2012, the negotiations for a new climate change regime applicable to post 2020 period have been continuing under UNFCCC Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP) with the aim of concluding a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties in 2015.

On the other hand as demonstrated in Chapter 3, Russia improved its profile in terms of economy, energy and emissions as compared to 1990 levels. Russia decreased its GHGs emissions substantially since its independence due to its experience of transition to market economy since all demand and supply linkages were interrupted with the disintegration of command economy where all the economic decisions had been centralized. Despite Russia developed a number of policies both domestic and international level with the motivation of Russian policy makers usually not directed at climate rather targeting economic and political gains. Still, these policies will have promising results on GHGs emissions of the country in the future.

As discussed in detail in Chapter 4, Russia was included in Annex I to the UNFCCC and Annex B to the Kyoto Protocol, as a result it had economy wide emission reduction targets. In fact, Kyoto, itself, could enter into force upon the ratification of Russia by having realized the majority rule for the entrance into force. Russia exploited its advantage of veto power for Kyoto Protocol and used the ratification issue as a bargain item for the support of EU for its membership to WTO.

Actually the modality for Kyoto was advantageous for Russia allowing it to stabilize its emissions at 1990 levels while the overall target for the Protocol was a reduction of 5%. 1990 levels for Russia were artificially high when the dissolution of the Soviet Union was considered. Russia was very active and constructive during the

negotiations for a new climate change regime that would have been applicable to post 2012 in Copenhagen, however overall consensus could not be reached and the final package, Copenhagen Accord could only be taken note of by the Parties. Russia pledged 15-25% reduction by 2020 in Copenhagen.

Especially after the failure in Copenhagen efforts, Russia turned back to its argument which it negotiated before Copenhagen urging for a new dynamic approach to reflect changing capacities of countries so that each large emitters could do their share. As a reaction to the negligence of developing country parties for new commitments, it again started to insist on its approach for a radical change within the Convention to reflect the new dynamics of countries. As a result, it did not assume new responsibilities in the second commitment period of Kyoto Protocol.

For Russia, although some scholars foresee rather an inactive position, the negotiation process will be rather intense and Russia will be very determinative for the new climate change regime especially when its large share in global GHGs emissions is considered.

Actually, as discussed in Chapter 5, the factors that will shape the position of Russia in the context of new climate change regime can be noted down as follows: GHGs emission projections, domestic policy developments on climate change in the country, energy demand security for Russian oil and natural gas, foreign policy objectives of the country, and the climate change negotiation positions of other leading emitters.

Russia has promising projections for its GHGs emission figures which enables it to negotiate for new commitments within the new climate change regime. Despite the fact that demand increase will continue in the future to match the economic growth of the country; as a result of Russian policies for increasing its capacity in energy efficiency, achieving reorganization of the energy industry, Russian GHGs emissions are expected to increase moderately even matching 1990 levels after 2035.

With regard to the issue of Russian energy demand security, the outlook of world energy mix in the future is of great importance to Russia because of the fact that it holds

the largest natural gas reserves as well as its enormous reserves of oil and coal. Since the world energy mix outlook through 2035 is expected to include fossil fuel resources with even increasing share of natural gas and EU is expected to continue to be the largest importer of natural gas worldwide together with increased demand from China and India, it is highly probable that Russia will sustain natural gas exports without experiencing any threat to its energy demand security.

On the other hand, Russia has always sought other foreign policy objectives for admitting cooperation on climate change as in the case of ratification of Kyoto Protocol. Hence, it is highly probable that Russia can utilize climate change politics to pursue some other foreign policy objectives like breaking the ices with other G 8 countries due to Russian politics on Ukraine and Crimea.

The architect of post 2020 climate change regime is still somehow blurred. On the one hand, developing countries including BRICS countries other than Russia underline the historical responsibilities of developed countries; on the other hand developed countries including Russia defend a new regime where all parties present their national contributions according to their capabilities and circumstances.

Therefore, developing countries desire to conclude a new agreement in which they are compensated for their mitigation and adaptation efforts with financial and technological support from developed countries as well as in which developed country parties will make ambitious emission reduction targets. Especially, leading BRICS countries such as China and India are far from making binding economy wide emission reduction commitments. There are various constraints related to economics structures of these countries with respect to their energy and GHGs emission profiles. Enduring the sustainability of the economic growth and development might not align with the low carbon development path at the optimum cost because of the additional costs that the country should bear. So, when the expected increase in their energy demand and the large share of hydrocarbon resources thereby exponentially enlarging GHGs emissions are taken into account, the prominent developing countries with enormous emissions such as China and India will continue to defend the notion of 'historical responsibilities'

so long as they are forced to take economy wide quantified emission reduction targets when their economic growth trajectories together with their increasing demands for energy and anticipations for very high amount of emissions due to reliance on coal considered. However, if they are allowed to target a reduction in terms of energy intensity of economy and sector wide improvement policies such as increasing the share of renewable in energy mix, they will possible a part of a global but a low profile solution to climate change in the post 2020.

Developed countries diverge in their positions. Since EU has put great effort so far to tackle with climate change by changing its energy mix and lessening its GHGs emissions gradually it is the most voluntary player to conclude with an inclusive and ambitious climate change regime for post 2020 period. As for the U.S. since it has explained its intention for reducing its carbon emissions by 2030; it is close to compromise an inclusive solution for the climate change problem by underlining the need for a regime reflecting the dynamics and realities of countries current capacities.

In sum, developing countries can compromise a solution to climate change regime provided that the potential contributions of them other than emission reductions are appreciated within the new climate change regime. On the other hand, developed countries will try to force developing countries to take commitments. So, Russian position, which has been very active recently, can bridge the gap between these two groups. Actually Russia is one of the most comfortable developed country parties to take emission reductions with respect to its GHGs emission projections if the conditions are shaped in the way that best fits the outlook of Russian GHGs emission projections.

It can be concluded that Russia's strategies tend to promote a decisive role for Russia in the stage of formation of a new regime on climate change since it is able to assume new responsibilities when the economic, energy and GHGs emission profile projections of the country, together with energy security structure, promising climate change policies encompassing mitigation and adaptation measures for a low carbon economy, the foreign policy objectives beyond climate change issues and the positions of other leading emitters are considered.

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APPENDICES

A. TURKISH SUMMARY

Bu tez küresel düzeyde iklim değişikliği rejiminin evrimini detaylı bir şekilde tartıştıktan sonra bu kapsamda iklim değişikliği politikalarına esas teşkil edecek ekonomik, enerji ve emisyon görünümü ile önemli politika gelişmeleri de göz önünde bulundurarak Rusya'nın söz konusu rejim kapsamındaki rolü ve 2020 sonrasında uygulanacak yeni iklim değişikliğinin belirlenmesi kapsamındaki müzakere stratejilerini analiz etmektedir.

2. Bölümde detaylıca ele alınan üzere, iklim değişikliği insanlığın bugüne dek karşılaştığı en ciddi sorunlardan biridir. Atmosferde yer alan sera gazlarının yoğunluklarının artması ile birlikte dünya genelinde oluşan kalsiyum sonucunda küresel düzeyde iklim yapısında değişiklikler olmaktadır; bu kapsamda, kavurucu sıcaklıklar ve dondurucu soğukların görülme sıklığının artarken bazı bölgelerde kuraklıklar yaşanmakta, bazı bölgelerde ise buzulların erimesinin etkisiyle deniz seviyesi yükselmekte, birçok farklı noktada ise olağanüstü doğa olayları, afetlerin gerçekleşmesi artmaktadır.

İklim değişikliği, Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesi, Hükümetlerarası İklim Değişikliği Paneli ve Uluslararası Enerji Ajansı gibi farklı kuruluşlar tarafından farklı farklı gözleterek tanımlanmasa da her bir tanım iklim değişikliğinde insan faktörüne değinen oranlarda vurgu yapmaktadır. Uluslararası arenada çevre duyarlılığı, 1972 yılında gerçekleştirilen Stokholm Konferansı ile artmış, 1979 yılında gerçekleştirilen Dünya İklim Konferansında özellikle küresel ısınmaya dikkat çekilmesi ve konunun daha detaylı bilimsel verileri de ortaya konmasına olanak verecek şekilde küresel bir işbirliği zemininde araştırılması, teminen Birleşmiş Milletler bünyesinde Hükümetlerarası İklim Değişikliği Paneli oluşturulmuştur. 1991 yılında Panelin 1. Değerlendirme Raporunu sunmasının hemen ardından insanlığın küresel ısınmadaki rolünü kabul edip sorunun bertaraf edilmesini teminen küresel bir

çözüm bulmaya yönelmi tir. Birle mi Milletler klim De i ikli i Çerçeve Sözle mesi bu uyan, sürecinin bir sonucu olarak ortaya ç,km, t,r. 1992 y,l,nda gerçekte tirilen öRio Yeryüzü Zirvesiö kapsam,nda üzerinde uzla ,lan üç konvansiyondan biri olan Birle mi Milletler klim De i ikli i Çerçeve Sözle mesi geli mi ve geli mekte olan ülkeler farklı sorumluluklar getirmektedir. Ekonomik birli i ve Kalk,nma Te kilat, üyeleri ile Geçİ Ekonomilerinden müte ekkil olan Ek-1 ülkeleri iklim de i ikli i ile mücadelede öncül olarak i aret edilirken, geli mekte olan ülkeler Ek-I d, , diye adland,r,lan listede yer almaktad,r. Bunun yan, s,ra, yaln,zca Ekonomik birli i ve Kalk,nma Te kilat, üyesi ülkelerin yer ald, , ve Ek-1 ülkelerinin bir alt kümesi olan Ek-2 ülkeleri, Ek-1 d, , ülkelerin iklim de i ikli i çabalar,na teknoloji, finansman ve kapasite geli tirme anlam,nda destek sa lamakla yükümlü tutulmu lard,r.

1990'd, y,llar,n sonundan itibaren Birle mi Milletler klim De i ikli i Çerçeve Sözle mesi kapsam,nda al,nan kararlar, güçlendirilip geli mi ülkelerin yükümlülüklerini gerçekte tirmelerini teminen imzalanan Kyoto Protokolünün detaylar,n,n belirlenmesine yönelik yo un müzakereler gerçekte tirilmi tir. Bu kapsamda, Kyoto Protokolü Ek-B listesinde yer alan ülkeler için (bu ülkeler esasen Birle mi Milletler klim De i ikli i Çerçeve Sözle mesi Ek-1 listesinde yer alan ülkelerdir) say,salla t,r,lm, azalt,m yükümlülükleri söz konusudur. Protokol kapsam,nda ülkelerin taahütlerini gerçekte tirmelerine ve ülkeler aras, i birli ine olanak sa layacak birçok esneklik mekanizmas, da dizayn edilmi tir. İlk uygulama dönemi 2008-2012 dönemini kapsayan Protokolünün yerini alacak ve 2012 sonras,nda uygulanacak yeni iklim de i ikli i rejimine ili kin müzakereler kapsam,nda 2009 y,l,nda Kopenhag 15. Taraflar Konferans,nda bir sonuç al,namamas,yla birlikte iklim de i ikli i rejimine olan güven azalm, t,r. Ancak, 2010 ve 2011 y,llar,nda s,ras,yla Cancun ve Durban'da gerçekte tirilen Taraflar Konferanslar, ile sisteme olan güven tazelenmi tir. Özellikle, Durban 17. Taraflar Konferans,nda 2015 y,l,na kadar 2020 y,l,ndan itibaren uygulanacak iklim de i ikli i rejimi üzerinde uzla ,lmas, kararla t,r,lm, ve bu çerçevede müzakereleri yürütmek için Güçlendirilmi Eylem için Durban Platformu Geçici Çal, ma Grubu olu turulmu tur. Doha'da gerçekte tirilen 18.

Taraflar Konferans,nda ise Kyoto Protokolünün ikinci taahhüt döneminin kesintiye yol açmaks,z,n 2013-2020 dönemini kapsamas,na karar verilmi tir.

Kyoto Protokolü, gerek 2008- 2012 dönemini kapsayan ilk dönemindeki taraf olan ülkelerde ortalamada % 5dik bir azalt,m hedefi ile gerekse 2013- 2020 döneminde k,s,tl, say,da kat,l,mc, ülke ile %18dik bir azalt,m hedefi koymas, ile k,s,tl, bir etki sa layabildi. Bu anlamda, bilim çevrelerince iklim de i ikli inin katastrofik etkileri ile mücadele etmek için küresel ,s,nman,n 2°C s,n,rland,r,lmas, hedefinin gerçekleştirilmesine yönelik isteklili inin eksikli i s,kl,kla ifade edilmekte, küresel ,s,nman,n sanayi devriminin ard,ndan h,z kazand, , ve 1830- 2012 y,llar, aras,nda 0.85 °C seviyesine yükseldi i vurgulanmaktad,r. Tüm bu geli melere s,kça at,fta bulunan Güçlendirilmi Eylem için Durban Platformu Geçici Çal, ma Grubu bünyesinde müzakereler yo un bir ekilde devam etmekte ve 2015 y,l,nda gerçekleştirilecek olan 21. Taraflar Konferans,nda karara ba lanacak bir protokol, anla ma veya üzerinde uzla ,lm, yasal ba lay,c,l, , olan bir metnin 2020 sonras,nda uygulamaya konmas, beklenmektedir.

Dünyan,n en geni yüzölçümüne sahip çok çe itli iklim ku aklar,na ev sahipli i yapan Rusya,n,n iklim de i ikli i politikalar,n,n ve stratejilerinin analizi ülkenin en önemli emisyonu sahip ülkeler aras,nda yer almas, faktörü de göz önüne al,nd, ,nda kritik öneme haizdir.

Rusya,n,n 90d, y,llar,n ba ,ndan bu yana olan iklim de i ikli i politikalar, Nikitina Elena, Daniel Dudek, Laura A. Henry ve Lisa Mc,ntosh Sundstrom, Nicholas Howarth ve Andrew Foxall gibi birçok akademisyen taraf,ndan iklim de i ikli i politikalar,n,n evrimi, Kyoto Protokolünün ekonomik etkileri, Rusya,n,n uluslararası iklim rejimi kapsam,nda karar al, süreçleri ba lam,nda ele al,n,p incelenmi tir. Tüm bu akademisyenlerin ortak olarak i aret etti i nokta Rusya,n,n iklim de i ikli i politikalar,n, bir d, politika arac, olarak kullanma e iliminde olmas,d,r. Ayr,ca, Liliana Andonova ve Assia Alexieva ile Alexey Kokorin ve Anna Korppoo yapt,klar, analizler ile Rusya,n,n Kyoto sonras, iklim rejiminde bekleme modunda olaca ,n, ve göreceli olarak pasif hareket edece ini savunmu lard,r.

Oysa ki söz konusu akademisyenlerin görüşlerinin aksine bu tez, Rusya'nın yeni iklim değişikliği rejimi müzakereleri çerçevesindeki pozisyonunu düşük profilli olarak Rusya'nın yeni yükümlülükler almaya ve ekonomisini düşük karbonlu ekonomiye dönüştürmeye muktedir olması, nedeniyle, yeni iklim rejiminin belirlenmesinde belirleyici bir rol oynamaya çalıştığını, iddia etmektedir.

Söz konusu argümanın tartışılması için bu tez kapsamında öncelikli olarak Rusya'nın iklim değişikliği politikaları, ve stratejilerinin analizi bağlamında öncelikli olarak ülkenin ekonomi, enerji ve sera gaz, emisyonları, bağlamındaki görünümü ele alınmıştır. Akabinde, Rusya'nın uluslararası iklim değişikliği rejimindeki yeri ve Kyoto Protokolünün sona ermesiyle birlikte 2020 sonrasında oluşacak yeni rejime ilişkin devam eden müzakereler çerçevesindeki stratejilerini etkileyen unsurlar ve öncelikleri ortaya konulmuştur.

3. Bölümde, Rusya'nın ekonomik, enerji ve emisyon görünümünün ele alınması temel nedeni, bir ekonominin büyümesini sürdürebilmesi enerji kullanımıyla enerji kullanımı da seragaz, emisyonlarına yol açmasıyla yakıttan ilgili olmasıdır. Bilindiği üzere günümüz enerji arz yapısında büyük ölçüde sera gaz, emisyonları en önemli kaynağı olan karbon salımlarına neden fosil yakıtlardan oluşmaktadır. Dolayısıyla bir ülkenin ekonomik gelişimi ve enerji profili o ülkenin emisyon profili hakkında önemli çıkarımların yapılmasına yardımcı olabilmektedir. Bunun yanı sıra karbon dioksit emisyonları da göz önünde bulundurulması, teminen ülkenin emisyon envanterinin yapısı ve tarihi gelişiminin incelenmesi büyük önem taşımaktadır.

Rusya'nın 1992 yılında başlatılan, ilan etmesinin ardından, ekonomik kararların tek merkezden alındığı, bir yapıdan serbest pazar ekonomisi olmayı hedefleyen yeni bir yapıya geçiş sağlanması, ülkenin ekonomik büyümesi üzerinde hızlı ve olumsuz bir etki yaratmıştır. Zira, ülkenin iktisadi bir çok ekonomik faaliyet alanında arz ve talep bağlantılarının anlaşılan yapıları farklı, eski Sovyet devletleri sistemleri, içerisine yayılması, nedeniyle kopması, piyasa ekonomisi koşullarına uyum sağlanması, ve küresel ekonomiye entegrasyonla birlikte bütünleşmeyi amaçlayan bir çok alandaki radikal düzenlemelerin uygulanması, şok terapi yaklaşımının benimsenmesi ekonomik

daralman, h, z, n, ve toparlama sürecinin uzunluğu daha da arttı, r, m, t, r. Ancak ülke ekonomisi 1997 y, l, ndan sonra 1998 ve 2009 y, llar, nda tecrübe edilen ekonomik krizler d, , nda sürekli olarak pozitif büyüme kaydetmeye devam etmiştir. Söz konusu dönemde ülkenin birçok diğer makroekonomik göstergelerinde de olumlu performans gösterdiği ve ekonomik büyümenin önümüzdeki dönemde azalan bir hızla da olsa sürdürüleceğinin tahmin edildiği gözlemlenmiştir.

Diğer taraftan Rusya, ekonomik faaliyetlerin devam, nda en önemli unsurlardan biri olan enerji kaynakları, b, l, m, nda anlaşılabilir olarak değerlendirilebilecek bir noktadadır. Sahip olduğu petrol, doğalgaz ve kömür rezervleri b, l, m, nda dünya sıralamasında ön sıralarda gelmekte olup, ana ürünlerin özellikle petrol ve doğalgaz ihracatı, n, n Rus ekonomisi için önemi çok büyüktür. Ülkede enerji tüketimi yakından incelendiğinde ise en önemli enerji kaynağı olarak doğalgaza yönelim sağlandı, , onu ise petrol ve kömürün izlediği, yenilenebilir enerji kaynakları, n, n Rusya'nın enerji tüketimindeki payı, n, n yok denecek az olduğu görülmektedir. Ayrıca ekonomilerin enerjiyi ne kadar verimli olarak kullandığı, n, n bir ölçütü olarak kullanılan ekonominin enerji yoğunluğu b, l, m, nda (ekonominin enerji kullanımı, n, n ülkenin gayri safi yurtiçi hasılasına oranı) da 1992 y, l, ndan bugüne Rusya enerji yoğunluğu azaltarak önemli bir mesafe katmıştır. Rusya'nın başm, z, l, , n, ilan ettiği dönem incelendiğinde petrol ve doğalgaz üretiminin 90'lı yılların sonuna dek (1997-1998) azaldığı, ancak akabinde artış geçerek özellikle 2000'li yıllarda stabil denilebilecek bir seyir izlediği ve üretim miktarı, n, n tüketim miktarı, n, n daima üzerinde olarak fazla miktar ihraç edilmesine olanak sağlandı, , görülmüştür.

Rusya'nın sera gazı emisyonları, n, n 1990 y, l, ndan bu yana derinleşimi gözlemlendiğinde özellikle 90'lı yıllarda çok büyük ölçekte bir azaltım kaydedildiği 2000'li yıllarda ise çok büyük bir ivmeye sahip olmamakla birlikte emisyonlarda artış kaydedilmeye başlandı, , gözlemlenmiştir. 90'lı yıllarda kaydedilen azalış büyük ölçüde ülke ekonomisinde aynı dönemde yaşanan ekonomik daralma paralelinde enerji kullanımı, ndaki azalış ve enerji sektöründe sağlanan yapısal değişimler sonucunda gerçekleşmiştir. Rusya'nın sera gazı emisyonları, ndaki en önemli pay enerji

sektörüne ait olup salınım,mlarda en fazla paya sahip olan gaz karbondioksittir. Öte yandan 2000'di yıllarla birlikte salınımın hızla büyümeyle beraber ülkenin enerji tüketiminin daha yavaş artması, emisyonların artmasıyla da bağlantılı olmasının nedeni olmuştur. Ülkelerin emisyon salınım performansları, değerlendirilmek için kullanılan bir dizi araç ise ekonominin karbon yoğunluğunun ele alınmasıdır ki bu inceleme en temel olarak bir birim gayri safi yurt içi hasıla üretmek için salınan emisyonları göstermektedir. Rusya ekonomisi karbon yoğunluğunda 90'lı yıllardan beri istikrarlı bir şekilde düşüşünü sürdürmektedir. Ayrıca diğer bazı ülkelerin karbon emisyonları, salınımında da Rusya 2000'di yıllara kadar düşüşü sergilemiş bu tarihten itibaren de göreceli olarak sabit bir orana sahip olmuştur.

Öte yandan Rusya'nın önümüzdeki dönemde emisyonlarının seyrine ilişkin yapılan tahmin ve analizler tüm senaryo alternatifleri için 1990 temel yılının altını kalamayacağını göstermektedir. Alınacak tedbirlerin çeşitliliğine ve katılımlarına bağlı olarak da Rusya'nın 2020 ve 2030 yıllarında doğrudan çok yüksek oranlı emisyon azaltımlarını kaydedebileceği tahmin edilmektedir.

Rusya; Çin, Amerika Birleşik Devletleri, Avrupa Birliği ve Çin'in ardından 5. büyük emisyon yayıcı ülke konumundadır. 2005 yılına kadar en hızlı emisyon yayan ülke olan Amerika Birleşik Devletlerini geçen yıl itibarıyla emisyonları, özellikle 2000'di yıllardan itibaren son derece hızlı artmaya başlayan Çin geride bırakmış, tır. Diğer yandan, Ek-1 ülkeleri arasında yer alan en fazla emisyon kaynağı, ülkeler arasında 1990 temel yılına göre en önemli emisyon azaltıcı olan ülkeler Rusya ve Avrupa Birliği olurken Amerika Birleşik Devletleri ve Kanada emisyonlarında artış kaydedilmiştir.

Önümüzdeki dönemde de Uluslararası Enerji Ajansı'nca işaret edildiği üzere Ek-1 Ülkelerinin emisyonlarının doyumuna ulaşarak düşüşe geçmesiyle özellikle Çin ve Hindistan'ın artan enerji talebi paralelinde emisyonlarının da artması, sürdürülmesinin beklenmesi nedeniyle Ek-1 dışındaki ülkelerin emisyonlarının artmaya devam edeceği öngörülmektedir. Bu nedenle geçen ülkelerin önümüzdeki dönemde yeni iklim

de iklimi rejimi çerçevesinde bazı, ve katlayıcı yükümlülükler altına girmekten kaçınacaklar, değerlendirilmektedir.

Öte yandan Rusya'nın iklim değişikliği müzakere stratejilerinin belirlenmesini teminen ülkenin bu alanda geliştirdiği politikaların kapsam ve hedeflerinin de yakından incelenmesi zaruridir. Rusya'da iklim değişikliği politikalarının belirlenmesi ve uygulanmasından sorumlu birçok kurum bulunmakta olup doğrudan veya dolaylı olarak iklim değişikliği ile ilgili hedeflere sahip olan birçok politika ve strateji geliştirilmiştir. Örneğin 2003 yılında uygulamaya konulan ve 2009'da süresi 2020'den 2030 yılına uzatılan Enerji Stratejisi, aynı dönemde ülkenin doğal enerji kaynaklarının etkin şekilde kullanılması, temel amaçyla hareket ederken ekonominin enerji yoğununun azaltılması, enerji verimliliğinin artırılması, gibi sayısız hedeflere yer vermektedir. Ayrıca Strateji bünyesinde emisyonların, kirliliğin ve su kullanımının azaltılması, gibi hedefler de belirlenmiştir.

İklim değişikliği alanındaki diğer bir politik gelişme olarak ise 2009 yılında geliştirilen İklim Doktrini öne çıkmıştır. Doktrin, Rusya tarafından iklim değişikliğine insan etkisini de resmi olarak ilk kez kabul eden yasal bir metin olması, ve iklim değişikliğini milli güvenliği tehdit edebilecek bir unsur olarak değerlendirilmesi nedeniyle de özel bir yere sahiptir. 2020'ye kadar perspektif sunulan Doktrin bünyesinde adaptasyon ve mitigasyon ekseninde çok sayıda tedbir ve politikaya yer verilmiştir. Doktrin enerji üretiminde doğal gazın payının azaltılması, nükleer kaynaklara yönelim ve ayrıca yenilenebilir enerji kaynaklarının payının artırılması, hedeflerini de barındırmaktadır.

Ayrıca 2009 yılında gerçekleştirilen Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesi 15. Taraflar Konferansı kapsamında paralel olarak Rusya Kopenhag Uzlaşımında da yer alan emisyonların 2020 yılına kadar %15- %25 aralığında azaltılması, hedefini ortaya koymuştur. Bu kapsamda ayrıca güneş ve hidrolik enerji başta olmak üzere yenilenebilir enerji kaynaklarının enerji üretimindeki payının arttırılacak çeşitli tedbirler geliştirilmiştir. Ayrıca, enerji üretimi sırasında açığa çıkan metan salımlarının ölçümü ve kontrol altına alınarak kirliliğin önlenmesine ilişkin çeşitli düzenlemeler uygulamaya konulmuştur.

Tüm bu strateji ve politikalar Rusya'nın emisyon azaltım potansiyelinin artmasıyla emisyonların önümüzdeki dönemde azalmasına katkıda bulunacaklardır.

4. Bölümde tartışıldığı üzere Rusya, uluslararası iklim değişikliği sürecinde önemli bir yere sahiptir. Sovyetler Birliği'nin çöküşünün ardından kurulan yeni ve uluslararası arenada iddialı olmayı amaçlayan bir ülke olarak Rusya, 1992 yılında imzaya açılan ve 1994 yılında yürürlüğe giren Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesini ilk imzalayan ve onaylayan ülkeler arasında yer almıştır. Rusya, diğer Geçiş Ekonomileri gibi Çerçeve Sözleşmenin Ek-1 listesinde yer alırken finansman yardımı yapmakla sorumlu olan Ek-2 ülkeleri arasında da yer almıştır. Öte yandan Rusya, sayısız tıbbi emisyon azaltım taahhütleri alacak olan Kyoto Protokolü'nün Ek- B listesinde yer almakta olup, Protokolün yürürlüğe girmesini sağlayan ülke olarak bu çerçevede kilit bir rol oynamıştır. Zira, benimsenen kurallar çerçevesinde Protokolün yürürlüğe girebilmesi için en az 55 ülke ve toplam sera gazı emisyonlarının % 55'ini sağlayacak sayıda ülke tarafından onaylanması gerekmektedir. O tarih itibarıyla dünyanın en büyük kirleticisi olan Amerika Birleşik Devletleri'nin Protokolü imzalaması ancak onay sürecini tamamlayacak anlamına gelmemişti. Bu nedenle sürecin tamamlanması teminen gözler büyük kirleticilere çevrilmiştir. Rus yetkililer ise ülke içinde yapılan ve iklim değişikliğinin varlığı ve insanlığın bu süreçteki rolünün sorgulanmasından ve ülkenin emisyon azaltım potansiyeli ile analılan sürecin ülkenin ekonomik büyümesi üzerine olası olumsuz etkilerine kadar çok kapsamlı tartışmaların ardından gerek Kyoto esneklik mekanizmaları sayesinde ülkenin 1990 yılındaki göreceli olarak yüksek olan emisyonlarını kendileri için temel alınması sonucunda sağlanacak salınım azaltımları ile oluşan karbon kredilerinin pazarlanması sonucunda elde edilebilecek ekonomik gelirleri gerekse dış politika bağlamındaki diğer bazı hedefleri de göz önünde bulundurarak Protokolün onaylanmasına karar vermiştir. Bu hususta Rusya, hiç şüphesiz en önemli müzakere unsurlarından biri olarak iklim değişikliği sürecinin başarılı bir şekilde ilerlemesini hedefleyen Avrupa Birliği tarafından kendisinin devam eden Dünya Ticaret Örgütü üyesi olduğu sürecinde destek olunması olarak kurgulanmış ve bu koşullarda Kyoto'nun onaylanma sürecini tamamlamıştır. Rusya müzakerelerde görüşlerini

zaman zaman do rudan bildirdi i gibi, zaman zaman da Amerika Birle ik Devletleri, Kanada, Avustralya ve Japonya gibi Avrupa Birli i üyesi olmayan geli mi ülkelerin yer ald , ve üyesi oldu u emsiye Grubu arac,l ,yla da ifade etmektedir. Rusya'n,m müzakerelerde tak,nd , tavr ve yakla ,m zaman içinde farklı,k göstermektedir. Kopenag'da düzenlenen 15. taraflar Konferans, öncesine kadar Kyoto Protokolünün onaylanmas,n,n ard,ndan yakalad , olumlu hava ve tavr, sürdüren ancak ç e itli defalarda de i en ko ullar,n da göz önünde bulundurularak tüm kirletici ülkelerin taahüt alaca , yeni bir sistemi savunan Rusya, özellikle Kopenag sürecinin çökü e u ramas,n,n da ard,ndan tavr,n, daha da netle tirerek Durban'da gerçekleştirilen 17. Taraflar Konferans,nda ileriye sürdü ü üzere Birle mi Milletler klim De i ikli i Çerçeve Sözle mesinin geli mi ve geli mekte olan ülkeler aras,ndaki ayr,m, ifade eden Ek-1 ve Ek-1 d , ülkeler listelerinin dinamik bir yakla ,mla ülkelerin günümüz ve kapasitelerini yans,tacak ekilde revize edilmesi yakla ,m,n, benimsemi tir. Ortak Fakat Farklı,la t,r,lm, Sorumluluklar ilkesinin günümüz ko ullar,n, da yans,tarak yeniden yorumlanmas,n anlam,na gelecek Rusya'n,m bu yakla ,m, birçok geli mi ülke taraf,ndan da desteklenirken, Çin ve Hindistan gibi emisyonlar,n, son derece h,zl, artt,ran ve iklim de i ikli i probleminin geli iminde tarihi sorumluklar,n,n az oldu unu vurgulayan birçok geli mekte olan ülke taraf,ndan kabul edilmemektedir.

5. Bölümde, Rusya'n,m yeni iklim de i ikli i rejimi kapsam,ndaki müzakere stratejilerini ve tak,naca , tavr, belirlemede etkili oldu u dü ünülen unsurlar ülkenin sera gaz, emisyonlar,na ili kin projeksiyonlar, iklim de i ikli i alan,nda ülkede ya anan iç politika geli meleri, Rus petrol ve do a gaz,n,n enerji talebi güvenli i, Rusya'n,d, politika hedefleri ve di er büyük emisyon yay,c, ülkelerin iklim de i ikli i müzakere pozisyonlar, olarak s,ralanm, t,r. Söz konusu unsurlar ve Rusya'n,m iklim de i ikli i müzakere stratejilerine etkileri ise s,rayla a a ,da tart, lmaktadır:

Ülkelerin iklim de i ikli i müzakerelerinde gelecek döneme ili kin kararlar al,rken temel olarak kulland , en önemli unsur gelecek döneme ili kin sera gaz, emisyonlar, projeksiyonlar,d,r zira söz konusu veri ülkenin emisyon azatl,m kapasitesini ve söz konusu azatl,m, gerçekle tirebilmek için katlanmas, gereken maliyeti ortaya

koymaktadır. Rusya'nın 2020 ve 2030 yıllarına dek uzanan dönemde sera gazı, emisyon projeksiyonları, incelendiğinde mevcut durum korunarak ilave hiçbir tedbir alınmasa dahi 1990 yılı emisyon seviyelerine ulaşamayacağı tahmin edilmektedir. Öte yandan enerji reformları, dönüşümler ve ilave tedbirler alınacak olursa Rusya'nın önemli ölçüde emisyon azaltım kapasitesinin olabileceği değerlendirilmektedir. Bu durum, Rusya'nın yeni rejimde kolaylıkla yeni taahhütler üstlenme kapasitesinin olabileceğini göstermektedir.

Bir diğer unsur olarak ise Rusya'nın ülke içinde geliştirdiği iklim değişikliği ile ilgili politikaları, Rusya'nın gerek enerji sektörü için 2030 yılına dek uzanan ve niceliksel ve niteliksel hedefleri barındıran enerji stratejisi gerek iklim değişikliği ile mücadelede uygulayacağı yol haritası, niteliğinde olan iklim doktrini gerekse iklim değişikliği bağlamında emisyonları azaltımına direkt veya dolaylı olarak katkıda bulunacak geliştirdiği çok çeşitli politikalar göz önünde bulundurulduğunda; yeni rejim bünyesinde ortaya konacak küresel çabalara önemli katkı sağlayabilecektir.

Rusya'nın müzakere pozisyonunun belirlenmesinde etkili bir diğer unsur enerji talep güvenliği bağlamında ise Rusya'nın en önemli enerji ihracı ürünü doğal gaz olan talebin önümüzdeki dönemde tehdit altında olup olmadığı analiz edilebilir. Buna göre, her ne kadar Rus doğal gazının en önemli alıcısı Avrupa Birliği salınım azaltım hedefleri açısından bile, önümüzdeki dönemde dünya genelinde ve Avrupa Birliği özelinde enerji tüketiminin yapısını ilkin yapılı tahminler doğal gaz olan talebin alınabilecek kapasiteyle tedbirlerden etkilenmeyeceğini göstermektedir.

Rusya'nın iklim değişikliği müzakere stratejilerini şekillendiren en önemli faktörlerden biri hep d, politika hedefleri olmuştur. Bu çerçevede Rusya, iklim değişikliği ile ilgili olmayan diğer alanlarda kazanımlar elde etmek için iklim değişikliği alanında atacağı adımları kullanmıştır. Örneğin, Rusya'nın Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesini ilk imzalayan ülkeler arasında yer alması, en önemli nedeni yeni başkanı, ilan ettiği bir ülke olarak uluslararası arenada kabul görmek olurken, Kyoto Protokolü üzerinde toplam emisyonlardaki yüksek payı nedeniyle sahip olduğu veto gücünün de etkisiyle Protokolün imzalanması ve iç onay sürecinin

tamamlanmasın, Dünya Ticaret Örgütü üyesi içinde Avrupa Birliği için destek almak için kullanılmı, t.r. Önümüzdeki dönemde de örneğin Ukrayna ve Kıbrıs konusunda takındı, , tavırlar nedeniyle G 8 ile kopma noktasına gelen ülkelerin yumuşatmak için ilk adım olarak iklim değişikliği müzakerelerindeki olumlu yaklaşım, kullanılması muhtemeldir.

Rusya'nın iklim değişikliği müzakere stratejilerini etkileyecek bir diğer faktör ise diğer büyük emisyon kaynağı, ülkelerin sürece bakışları ve katkıları olacaktır. Bu anlamda, emisyonlar, çok yüksek oranla artmaya devam eden Çin ve Hindistan gibi bazı gelişmekte olan ülkeler yeni iklim rejimi kapsamında sayısız emisyon taahhüdü almaktan mümkün olduğu kadar kaçınmaya çalışacaktır. Diğer yandan, Avrupa Birliği geçmiş dönemlerde olduğu gibi yeni süreç kapsamında da önemli katkı sunacağı yönündeki tavrını netleştirmiş, Amerika Birleşik Devletleri de yakın geçmişte emisyon azaltılmasına ilişkin sayısız hedefler zikretmeye başlamıştır. Bu durumda Rusya yer aldığı emisyon gruplarında müzakereler devam etmesi ve kendi iç politikaları da göz önünde bulundurularak yeni rejimin sonuçlandırılması anlamında Avrupa Birliği ve Amerika Birleşik Devletleri ile uzlaşmalarını muhtemeldir.

Rusya'nın yeni iklim rejimi müzakerelerindeki en önemli öncelikleri ise Kyoto dönemindeki azalmayı nedeniyle sağladığı karbon kredilerinin yeni rejime taşınması, emisyon azaltılması söz konusu olursa bazı 1990 alanları ve Rusya'nın karbon yutağı anlamında büyük potansiyel taşıyan orman alanlarının tam olarak hesaba katılması, sağlayacak ekilde muhasebe kuralları belirlenmesi olarak sıralanabilir.

Sonuç olarak bu tez, yapılan analizler çerçevesinde Rusya'nın yeni yükümlülükler almaya ve ekonomisini düşük karbonlu ekonomiye dönüştürmeye muktedir olması nedeniyle, yeni iklim rejiminin belirlenmesinde belirleyici bir rol oynamaya çalışacağını iddia etmektedir.

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