CENTRAL EUROPEAN UNIVERSITY

CLIMATE CHANGE POLICY IN CHINA AND RUSSIA:

IS THERE A CHANCE FOR IMPROVEMENT?

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BY

Tatyana Andreeva

PROFESSOR Peter Balazs, SUPERVISOR

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ABSTRACT

The topic of climate change has become a key element of international relations and it is going to remain important in the future. Climate change is a global problem, which is why approaches to addressing the issues of climate change need to be taken by all the states. Especially, China and Russia are the major greenhouse gas emitters in the world, and their participation in the fight against climate change is crucial. However, both countries' policies on climate change are at the initial stage. Moreover, China and Russia face a number of domestic issues that deter the development of approaches to addressing the issues of climate change. The external influence exerted by the EU on the two states also plays a role in conducting climate change policies in China and Russia. Therefore, the main question to be answered in the present thesis is what internal and external factors influence the formation of climate change policies in China and Russia and environmental, economic, political and external factors that play an important role in the formation of climate change policy in China and Russia and influence the position of these two countries on climate change.

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INTRODUCTION

Climate change is a topic of great interest and importance, since nowadays for humanity climate change and its social, political and economic repercussions can be defined as one of the major challenges of the 21st century, potentially jeopardizing the security of the world. ¹ In fact, the processes of climate change, for example, global warming has already taken place thus making humankind and in particular political elite start taking serious measures in order to prevent the ongoing processes of climate change. The international scientific consensus is that climate change and its consequences, such as reductions of arable land, territorial losses, water shortages, increased flooding, prolonged droughts, may pose a significant threat to people and their lifestyle, as well as the territories and economies of different states. In fact, civil and international conflicts, including clashes between the West and Russia for natural resources in the Arctic region, "environmentally" based migration within and between states, may arise out of the climate change tendencies. That is why it is crucial to address the problem of climate change now, develop a strong and well-defined strategy of dealing with climate change and its consequences and take a serious approach to tackling the climate change issues.

Nowadays, the topic of climate change is considered to be a key element of international relations and it is going to remain significant in the upcoming years.² Especially the approaches to addressing the climate change issues of the international actors, China and Russia, are of a large interest, as both states are reported to be major greenhouse gas emitters in the world, thus playing a significant role in the fight of climate change. Moreover, both China and Russia are exposed to a large number of various impacts of climate change, which have already caused changes in different environmental areas in these countries. The changes

¹ Council of the European Union, European Security and Defence Policy, no.6 (July 2008), p.21.

² Ibid.

in climate are likely to result in several problems in various sectors of the countries the national governments of China and Russia have to deal with, which may serve as motivation for them to adopt policies and take measures to mitigate and adapt to climate change.

Another reason why these two states' approaches to climate change need to be examined and analyzed is because while they are very important players in the fight against climate change, both China and Russia face many domestic issues, such as a relatively low level of living standards of the population, social security issues, and the eradication of these problems is recognized to be within the area of national priorities and core objectives of China and Russia. That is why the formation of climate change policies in these states is influenced by economic and political factors and in some cases, they deter the development of solid approaches to mitigate and adapt to climate change. Moreover, apart from the domestic environmental, economic and political factors which influence the formation of climate change policies in China and Russia, there is external influence on the two countries from such a powerful international actor and a leader in the fight against climate change as the EU.

Therefore, the present thesis examines the approaches of the two international actors, China and Russia towards climate change policy. In the thesis, each actor's position on conducting climate change policies is reviewed and analyzed from an environmental, economic and political aspect. These three aspects are crucial for defining the position of China and Russia, as climate change involves both environmental, economic and political aspects. The external factors that influence the position of China and Russia on climate change play an important role as well because China and Russia's stance could be different if the EU did not exert pressure on these two states. Thus, the analysis of the aspects and the external influence will help to answer the research question tackled in the thesis, which is what internal and external factors influence the formation of climate change policies in China and Russia.

So far, a great number of scientists in the world have conducted research in the field of climate change; however, there are still plenty of uncertainties concerning the impacts of climate change and the predictions made by the scientists, as the consequence of climate change and the future of the planet directly depend on policies, measures and actions taken by political elite and humankind, including China and Russia's. There are several country papers, national programs and reports devoted to the climate change situation in China and Russia, including those describing the effects of climate change on the environment and economy of the countries, policies and measures to mitigate and adapt to climate change that are planned to be or already have been adopted.³ However, since in the past there has not been a holistic analysis of environmental, economic, political and external factors that influence the formation of climate change policy in China and Russia, in this thesis an attempt to understand based on what factors and circumstances the Chinese and Russian governments conduct policies aimed at mitigating and adapting to climate change is taken.

In order to answer the research question i.e. what environmental, economic and political factors influence the formation of climate change policies in China and Russia, the focus will be on country papers, reports, various national programs aimed at mitigating and adapting to climate change, speeches from international conferences, communications on climate change where China and Russia participated and discussed their position on climate change, and projects for preventing changes in climate and dealing with consequences of

³ E.g. China's Policies and Actions for Addressing Climate Change; The People's Republic of China Initial Communication on Climate Change; China's National Climate Change Program; China's Greenhouse Gas Emissions and Mitigation Policies; China's balance act: Economic growth, climate change and the environment; China's climate change policy: domestic and international developments; Climate change, Russia Country Paper; Climate change: advantages and disadvantages for Russia; IPCC Fourth Assessment Report; Kyoto's mechanisms; Working with Russia on climate change: Barriers and Opportunities for Enhancing EU-Russia Dialogue.

climate change processed. The listed documents will be analyzed in order to conclude what the position on climate change of China and Russia is and what factors influence the approaches of the two countries to addressing the climate change issues and drive climate change policies in China and Russia. Also, the arguments concerning the stance of China and Russia on climate change policies will be supported by scientific research findings and facts from both the reports of environmental study scientists and political analysts. In addition, the values and priorities of the two international actors need to be defined in the thesis, since the thesis is based on the assumption that China and Russia construct their approaches and policies of climate change according to the values and national priorities. In addition, in order to examine what external factors have influenced the position of China and Russia on climate change policies, newspaper articles and working papers will be analyzed.

Thereby, the first chapter of the thesis is devoted to the climate change situation in China and the approaches and policies the Chinese government take in order to address the issues of climate change. The second chapter sheds light on climate change circumstances in Russia, and the features of the approaches to mitigating climate change in the country. The third chapter looks at external factors from the EU which have influenced the formation of climate change policies in China and Russia in the past and at present. In the conclusion, the environmental, economic and political factors that influence the formation of climate change policies in China and the external pressure from the EU are summarized, and the position of the two countries on climate change policies are defined.

CHAPTER 1: CHINA'S NATIONAL ECONOMIC AND ENVIRONMENTAL CIRCUMSTANCES, POSITION AND POLICIES TOWARDS CLIMATE CHANGE

This chapter looks at environmental circumstances in China, main features of Chinese national economy and its political position concerning the climate change situation in the country. All the three environmental, economic and political factors that will be introduced and analyzed in the chapter play an important role and influence the formation of climate change policy and approaches to address climate change issues. First, major impacts of climate change on the environment in China will be outlined and described in order to emphasize the seriousness of the climate change impacts. The next section, devoted to the environmental aspect of climate change, will provide evidence that the processes of changes in climate have already taken place in the most vulnerable parts of China, thus putting under a threat the population, territories, economy of the country. Also, several predictions made by scientists about the future environmental circumstances in China will be presented in the chapter, with the purpose to highlight the urgency of policies and measures in China to address and combat climate change.

The second chapter is devoted to the economic and political factors that play an important role in the formation of climate change policy in China, as based on these factors the Chinese government conducts policies, takes measures and actions aimed at mitigating and adapting to climate change in the country.

1.1. Climate change impacts on the environment in China

According to the latest various scientific research in the field of climate change and global warming, China, as well as other parts of the world, is exposed to a grave danger. Since the 1990s, Chinese scientists started assessing the impacts of climate change on the country, its vulnerability and possible adaptation. The record issued by the China Meteorological Administration demonstrates that the average surface temperature in China has increased by 1.1°C over the last 100 years from 1908 to 2007, and that China experienced 21 warm winters from 1986 to 2007, with 2007 being the warmest year since the beginning of systematic meteorological observations in 1951.⁴

Although research on the climate situation in China is being performed, it is still at the initial stage, which is why there is a number of uncertainties concerning the impact of climate change and global warming on the country. Still, based on preliminary assessments, the studies address four different areas which are crucial for the national economy of China and which may become the most sensitive areas China will have to face difficulties in. These areas are water resources, agriculture, terrestrial ecosystems and coastal zones ⁵ and they are considered to be the most vulnerable sectors exposed to the impacts of climate change in China and due to high temperatures, severe droughts, flooding and soil degradation, they are expected to bring severe losses to the Chinese economy in the future. ⁶ The maintenance of clean environment and the prevention of negative climate change impacts on it are important for a stable economic development, growth in China and its position on the international arena, that is why at present the Chinese government works actively on the climate change

⁴ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, pp. 3-4.

⁵ *Ibid.* p.7 and The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 09, 2007, p. 36.

⁶ Rex Victor Cruz, Hideo Harasawa, Murari Lal, Shaohong Wu, Working Group II Report "Impacts, Adaptation and Vulnerability", IPCC Fourth Assessment Report, Chapter 10, 2007, pp. 471-472 http://www.ipccwg2.gov/AR4/website/10.pdf

program and takes actions to mitigate and adapt climate change to the current environmental circumstances. The present and future outcomes of changes in the climate in four significant areas will be presented in the next sections.

1.1.1. Impact of climate change on water resources

Climate change has already caused changes in the distribution of water resources in the whole territory of China. The nationwide distribution of precipitation in the 1950s has undergone significant changes. According to the studies done by the Chinese scientists, the decrease of runoff in the six major rivers was steady in the past 40 years. Decreasing frequency of rainfall is recorded in North-East and North China and the reduced amount of water resources has led to continuous droughts there and will cause even worse droughts in the future. Also, larger areas are affected by dust storms. At the same time, the frequency of extreme rains in the West and South parts and summer rains in East China result in floods. Large-scale floods also have happened more frequently in North-East China since the 1990s and pose a bigger danger to the Chinese population.⁷

China is the country with the largest amount of mountain glaciers. Glaciers are a significant source of water in the country. However, since 16th century China's glaciers have been shrinking. And in the 20th century, it was recorded that the total area of the glaciers in the West part of the country decreased by 21 %. By 2050, with the same tendency of global warming, the glaciers area is expected to shrink to 27. 2%. ⁸ Melting of glaciers in Himalaya Mountains that accelerates and becomes more extensive with the processes of global

⁷ Rex Victor Cruz, Hideo Harasawa, Murari Lal, Shaohong Wu, Working Group II Report "Impacts, Adaptation and Vulnerability", IPCC Fourth Assessment Report, Chapter 10, 2007, p. 476 http://www.ipccwg2.gov/AR4/website/10.pdf and The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 09, 2007, pp. 36-38

⁸ The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 09, 2007, pp. 39-40.

warming will have a serious impact on rivers and runoffs from the mountains in the future and pose a grave threat to the usage of water resources in a long-term prospective.

1.1.2 Impact of climate change on agriculture

Agriculture is a very important sector in the economy of China. Increased agricultural production, employment of a large number of farm labor in rural industries, eradication of poverty and improved level and quality of food consumption have played a significant role in the economic growth in China. However, due to adverse impact of climate change, the agricultural sector and the stability of agricultural production in China are at stake. Agriculture has already suffered from changes in climate, droughts, hot extremes, heat waves and floods have affected crops and livestock production. Thus, production of rice, maize and wheat, which are the major crops in China, in the past few decades has declined due to limited water resources.⁹ The results of experiments demonstrated that climate change and disasters arising out of it might result in reduction of the grain production up to 10 % between the period of 2030-2050 if no measures are taken to change the present planting system. However, there may be a positive effect of climate change: on the one hand, after processes of global warming, several areas can start crop growth season earlier and finish later. On the other hand, the fertility period of soil will be shortened, thereby grain output will decrease due to the increased and accelerated crops growth. ¹⁰ Moreover, there is a big possibility of decline in crop quality, enlarged scope of crop diseases and insect outbreaks.¹¹ Therefore, climate change and its consequences have more negative than positive impacts on the agricultural sector of China.

⁹ Rex Victor Cruz, Hideo Harasawa, Murari Lal, Shaohong Wu, Working Group II Report "Impacts, Adaptation and Vulnerability", IPCC Fourth Assessment Report, Chapter 10, 2007, p. 475 http://www.ipccwg2.gov/AR4/website/10.pdf

¹⁰ The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 09, 2007, p. 36 and p.40.

¹¹ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, p.7.

1.1.3. Impact of climate change on terrestrial ecosystems

The area composed of vulnerable ecosystems in China occupies around 1.94 million square kilometers, which is one fifth of the total land territory of China. Five out of seven vulnerable regions are situated in the west part of China.¹²Thereby, climate change poses a significant threat to a large part of the land territory. The impact of climate change on China's forestry and other natural ecological systems includes earlier arrival of spring phenophase, shifts of boundaries of zones, shifts of forest belts, rising frequency of animal and plant diseases and insect outbreaks, reducing area of glaciers in North-West China. Further global warming will only make the situation worse by increasing the vulnerability of ecological systems, decreasing the geographical distribution areas of main tree species for afforestation and rare tree species, enlarging the outbreak scope of forest diseases and insects, and increasing the frequency of forest fires and burnt-over areas, diminishing inland lakes and causing the decrease and functional degradation of wetland resources.¹³

1.1.4 Impact of climate change on coastal zones

According to the Bulletin on the Sea Level in China, in the past 50 years, the coastal sea level in China has risen at an annual rate of 1.0-3.0 mm on average¹⁴ and over the past 30 years by 90 mm and the sea surface temperature has increased by 0.9°. This has resulted in such adverse consequences as coast erosion, which is an important issue for China, since about 70 % of current beaches are in the state of erosion-induced retreat. Other consequences include sea water intrusion and soil salinization, which leads to continuous reduction of

¹² The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 09, 2007, p.42.

¹³ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, p.8.

¹⁴ The People's Republic of China Initial Communication on Climate Change, PMO of National Communication project, February 9, 2007, p.45.

agricultural production, degrading of the service functions such as water-body purification, nutrients transformation, diminishing of biodiversity of ecological system in coastal areas, degradation of marine fishery and endangering of some species.¹⁵ Future predictions about the state of sea-level in the coastal zone of China are that projected sea-level rise is very likely to lead to great losses of coastal ecosystems, thus South and South-East China will be at a risk of flooding seriously affecting aquaculture industry, infrastructure, the life of people and the economic development of coastal regions.¹⁶

These facts and predictions of the various scientists in the four important sectors of Chinese economy, development and people's lifestyles draw a dramatic picture of the impacts and effects of climate change. Therefore, the environmental circumstances in China have induced and are likely to motivate the Chinese government in the future to form the climate change policy in compliance to the adverse effects of climate change on the country and take adequate measures to prevent and adapt its negative impacts on the economic development, growth and living standards of the Chinese population.

1.2. Economic and political aspects of climate change policy in China

The second section of this chapter is devoted to the economic and political aspects of climate change policy in China. They will be addressed in order to have a broad outlook of the Chinese position towards climate change policy. Both economic and political factors play a significant role in the formation of climate change policy in China and need to be viewed and analyzed jointly in the chapter as they are interconnected and depend on each other.

¹⁵ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, pp.9-10.

¹⁶ Rex Victor Cruz, Hideo Harasawa, Murari Lal, Shaohong Wu, Working Group II Report "Impacts, Adaptation and Vulnerability", IPCC Fourth Assessment Report, Chapter 10, 2007, p. 471 http://www.ipccwg2.gov/AR4/website/10.pdf

1.2.1. Economic factors and circumstances that influence the formation of climate change policy in China

Climate change and its various negative effects have become a matter of great concern in China. As a country with the biggest population, relatively low economic development, different types of climate zones and a fragile ecological environment, China has faced many problems in the environmental, economic and social sectors.¹⁷ In addition, it is conventional to think that China as a country with rapid economic development in recent years gives a priority to economic growth rather than to climate change issues. ¹⁸ However, China has realized that the adverse effects of climate change are doing harm to the country, its population, economy and territories, and that is why recently it has started to participate and take an active role in international cooperation against climate change.

China has its own specific strategy based on national interests and strategic goals to position itself on the global scale. The Chinese strategic concept differs from the rest of the world, since it has a Chinese cultural background.¹⁹ In Chinese, 'interest' is defined as 'advantage'²⁰, thus the national interests can be called national advantages. In order to define national interests of China, it is necessary to say that they are formed according to the national needs and wishes. According to Li Shao Jun, China has two main needs, which are security and economic interests. The latter include constructing and growing the economy of the country, improving living standards of the Chinese population and achieving national modernization.²¹ The economic interests have not changed much since Deng Xiaoping's reforms, when in his works he talked about the enormous political importance of the

¹⁷ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, p.1.

¹⁸ John P. Holdren, "The Future of Climate Change Policy: The U.S.'s Last Chance to Lead", Scientific American, October 2008. http://www.sciam.com/article.cfm?id=the-future-of-climate-change-policy

¹⁹ The international politics of EU-China relations, edited by D. Kerr and Liu Fei, Oxford, New York, 2007,

p.38. ²⁰ Chinese Academy of Social Sciences, Language Research Institute, Xiandai Hanyu Cidian (Dictionary of Modern Chinese), Beijing: Shangwu Yinshguan, 1983, p.698.

²¹ The international politics of EU-China relations, edited by D. Kerr and Liu Fei, Oxford, New York, 2007, p.39.

development of the Chinese economy, stating that it is the country's long-term task and "even in the case of a large-scale war China must strictly adhere to economic development".²² Thereby, stable economic development and growth seem to be the number one priority for China, which has a direct influence on the formation of climate change policy in the country. Nowadays in China, the situation is different from the one during the times of Deng Xiaoping, and it needs to be described in order to see what factors affect climate change reforms in the country.

At present, China is at a relatively low level of economic development, which is why eradication of poverty is one of primary task and challenges for China. Another issue the country is facing is its largest population on the planet, which accounts for 20.4 % of the world total and causes various internal problems, such as high level of unemployment, low level of urbanizations and so on. Moreover, there is a great disparity in economic development between different regions of China and between rural and urban areas. For instance, in the end of 2005 the population below poverty line composed 23.65 million people.²³ Therefore, its relatively low level of economic development, a high rate of poverty, the largest population and other domestic issues have a large impact on the approaches and actions taken by the government towards the climate change issues and the formation of climate change policy in China in general.

Currently, China is a country which is going through the process of industrialization and requires a large amount of energy, and it utilizes coal-dominated energy mix, which does not meet the purpose of controlling and reducing the greenhouse gas emissions. Because of the coal-dominated energy mix, CO2 emission intensity of China's energy consumption is

²² Deng Xiaoping, "Muqian de Xingshi he Renwu" [The present situation and the tasks before us], in Deng Xiaoping Wenxuan [Selected Works of Deng Xiaoping], Vol. II, Beijing: Renmin Chubanshe, 1994, p. 249.

²³ China's National Climate Change Program, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, p. 16.

relatively high.²⁴ Moreover, in recent years, the economic growth of China has been faster than anticipated, thereby the use of coal has been bigger than anticipated as well. Depending on figures given in different sources, at present China is ranked either number one or number two largest contributor to greenhouse gas emissions in the world. In fact, being the leading emitters of greenhouse gas emissions, China and the U.S are responsible for about 35% of global emissions.²⁵ The amount of the CO2 is determined by the volume of production and the biggest source of greenhouse gas emissions is fuel-combustion in all sectors; therefore, various working papers, programs and actions aimed at combating climate change emphasize the importance and necessity of advancing and innovating of science and technology in China, intensifying research and design (R&D) efforts, modifying of technologies and transferring them to environmentally friendly and refer to them as to solutions to the problem of climate change.²⁶ All these scientific and technological strategies and objectives require much time and large investments, which is why changing the tendency of using the energy mix in the nearest future and thus controlling greenhouse emissions is the biggest challenge for China.

1.2.2. Developments in addressing the climate change issues in China

The Chinese government has recently realized that the global problem of climate change is now their problem,²⁷ and thus it has created various advisory and policy bodies, established the National Coordination Committee on Climate Change and has formulated and implemented China's National Climate Change Program (CNCCP), outlined objectives, basic

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²⁴ *China's National Climate Change Program*, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, pp. 6 and 15.

²⁵ Jane A. Leggett, Jeffrey Logan, Anna Mackey, China's Greenhouse Gas Emissions and Mitigation Policies, CRS Report for Congress, September 10, 2008.

²⁶ China's balance act: Economic growth, climate change and the environment, The Brooking Institution, Washington, D.C., September 18, 2008; *China's National Climate Change Program*, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, pp. 52-54; China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, pp. 33-34 and China's Scientific & Technological Actions on Climate Change, Beijing, June 2007, p.10.

principles, and key areas of actions, and it adopted a number of measures and policies to address climate change for the period up to 2010.²⁸ Apart from that, China is a party to the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol where the country lies under limited obligations.

The activities of the CNCCP are aimed at both mitigation of greenhouse gas emissions and adaptation to the consequences of potential climate change, including lowering energy intensity of China by 20 % by 2010, increasing more than two times the use of renewable energy by 2020, expanding nuclear, gas and renewable generated power in order to get rid of coal-based energy, closing inefficient industrial facilities, making standards for buildings and appliances more efficient and expanding forest coverage to 20 %. Although the Chinese government has started approaching the climate change issues rather seriously, it must be stated that the policy does not yet imply mandatory limits on emissions ²⁹ since the Kyoto Protocol does not require China to reduce greenhouse gas emissions to the level of 1990 by 2012 as the developed countries are expected to do.³⁰

In order to have a look and further analyze the developments in the area of climate change in China, the country's position concerning climate change and its priorities, guidelines and principles of the CNCCP have to be addressed in the paper. According to the guidelines of the CNCCP, China places economic development of the country as the principal objective, China follows the fundamental national policy of resources conservation and environmental protection, the country aims at controlling greenhouse gas emissions, conserving energy, optimizing the energy mix, reinforcing and restoring ecological system, advancing science and technology and building and strengthening international cooperation

²⁸ China's National Climate Change Program, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, p.2.

²⁹ Jane A. Leggett, Jeffrey Logan, Anna Mackey, China's Greenhouse Gas Emissions and Mitigation Policies, CRS Report for Congress, September 10, 2008, p. 1.

³⁰ Chinese Politics, The Kyoto Protocol, Chinese Politics and Foreign Relations: Past and Present, http://cero11.cise.ufl.edu/~webmaster/Learning_Modules/POL/content/index.html

to improve its capability in combating climate change and work on further contribution of global climate change. ³¹ Therefore, it is clear that while prioritizing economic development and growth, China has made efforts to mitigate changes in the climate by working on reducing greenhouse gas emissions and energy conservation with the help of different means.

1.2.3. Sustainable development – China's attempt to combine the economic development with the mitigation of climate change

It is also important to draw attention to the principles of the CNCCP in addressing climate change in China, as they help explain what the position of China towards climate change policy is and how the country is planning to tackle the impacts of climate change. There are several principles according to which China addresses climate change issues. One of the core principles is addressing the issues in the context of national sustainable development strategy. That means that the consequences and negative outcomes in climate change arising out of economic development of the country should be addressed and solved along with development.³² Thus, the sustainable development of the country has to lead to a positive result both in pursuing economic growth and tackling climate change issues.

China has not yet introduced a large number of technological innovations either in environmental protection or in resource saving according to its present climate change situation. It is using its current resource intensive technologies trying to catch up with the developed world. For instance, China is producing and utilizing automobiles in a regular way, building cities that tend to sprawl. China still demonstrates a very energy intensive economy not only because of the industrial mix, but because China is following a trajectory like the United States and Europe in terms of overall choice of industry, consumer development, methods of urbanization, methods of farming, which do not respond the requirements of a

³¹ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, p.11.

 $[\]overline{}^{32}$ Ibid.

strategy aimed at reducing the input of production.³³ Despite the fact that China has not yet modified its technologies, the country is working on nuclear energy strategy which is stated to be one of the major projects for the nearest future in China. It is a part of its national energy strategy to promote the development of nuclear power. There are already many nuclear energy plants constructed there and by the year of 2050 nuclear energy is expected to be the biggest energy source. ³⁴

1.2.4. China's stance on sharing responsibilities for greenhouse gas emissions with the developed world

Another "common but differentiated responsibilities" among developed and developing countries principle derives from the UNFCCC and implies that developed countries have to bear responsibilities for their historical accumulated emissions and current high per-capita emissions, take the leading position in reducing them and provide financial support and transferring technologies to developing countries according to the history, level of development, capabilities and ways of contribution. At the same time, developing countries have to adopt adaptation and mitigation measures, control greenhouse gas emissions and contribute to the common efforts of addressing climate change while developing their economies and eradicating poverty.³⁵ China has adhered to the principle of common but differentiated responsibilities since the 1980s. From the beginning of international negotiations concerning climate change and its impacts, China has disagreed with the requirements to reduce the level of the greenhouse gas emissions and it refused to be bound by the commitments. Nowadays, the position of China, recently presented by the Chinese officials, has not changed much and it is that "wealthy countries must take responsibilities for the most of the greenhouse gases produced over the past century and China will not commit

³³ China's balance act: Economic growth, climate change and the environment, The Brooking Institution,

Washington, D.C., September 18, 2008.

³⁴ Ibid.

³⁵ United Nations Framework Convention on Climate Change, United Nations, 1992.

to mandatory emissions-reduction targets before the affluent states take the lead in addressing global climate change and help China and other developing countries to limit greenhouse gas emissions. Apart from that, the international community must respect the right to develop for the developing countries".³⁶ Therefore, China is ready and willing to take active measures to combat climate change but it expects the developed countries such as the U.S and the EU member states to take the lead in reducing greenhouse gas emissions and assist China in modifying its technologies.

Second, China's economy is very much dependent on production, which is one of the biggest sources of economic growth in the country. It is very costly for China to handle this problem of replacing the technologies on its own without help from the developed countries, China's partners in combating the climate change issues, and it wishes to continue developing and increasing the growth at the same high speed. That is why China keeps referring to and insisting on the UNFCCC principle of "common but differentiated responsibilities", which may let China maintain relatively same level of economic development and growth and at the same time, reduce greenhouse gas emissions and transfer technologies in the country mostly at the expense of the developed countries.

Thirdly, the Chinese government claims that emissions per capita in China are low and in per capita terms these emissions do not harm the environment as much as the U.S. and the EU do. That is why China is trying to catch up with the developed countries, and increasing incomes and eradicating poverty are the number one priority for China. ³⁷China believes that industrialized countries must bear primary responsibility for the historical build-up of

³⁶ China and Global Climate Change: Reconciling International Fairness and Protection of the Atmospheric Commons, Center for Asian and Pacific Countries, January 2009, http://www.ln.edu.hk/caps/conference.php and China unveils climate change plan, BBC News, June 4, 2007, http://news.bbc.co.uk/2/hi/asiapacific/6717671.stm

³⁷ China's balance act: Economic growth, climate change and the environment, The Brooking Institution, Washington, D.C., September 18, 2008

greenhouse gas emissions and assist developing countries to mitigate emissions and adapt to climate changes. China is expecting the developed countries to provide financial assistance and transfer technology to developing countries so as to increase their capacity to combat climate change.³⁸

Despite the fact that comprehensive national schemes to promote greener technologies are yet in the process of being introduced, China makes attempts to push forward "greener" policies for economic growth, thus in the summer of 2008, China's central bank presented a provisional outline for a domestic emissions trading scheme that aims to cover all sectors from greenhouse gases to water pollutants.³⁹ Therefore, it is clear that China is working on measures and policies to mitigate and adapt to climate change, but there are factors such as relatively low level of economic development and domestic issues, which are the obstacles China has to overtake in order to have a solid approach to climate change. To sum up, it is necessary to point out that the principle of common but differentiated responsibilities is the main argument China brings in order to demonstrate its position towards the climate change policy. Even though China's principal priority is economic development and growth, it adopts corresponding measures and is ready to cooperate with other states in combating climate change. What China insists on is that the developed countries must take historic responsibilities for the most of greenhouse gases that they emitted in the process of becoming developed and wealthy and that they must help China, a developing country, to modify the technologies and reduce emissions.

³⁸ Gorild Heggelund, 'China's climate change policy: domestic and international developments', *Asian Perspective*, Vol. 31, No. 2, 2007, pp. 175-177 and *China's National Climate Change Program*, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, p.2

³⁹ The G8 and Climate Change since Heiligendamm – Final compliance report for the G8 and outreach five countries, The G8 Research Group – London School of Economics/Oxford University, Oxford, 20 July 2008, p.208, http://www.g8.utoronto.ca/oxford/g8rg-lseox-final-2007-080720.pdf

1.2.5. Technology innovation and international cooperation

Next principle of the CNCCP, relying on the advancement, innovation of science and technology transfer, is very much related to the principle of common but differentiated responsibilities. Due to the fact that China is devoted to large-scale infrastructure construction and it is utilizing the coal-based technologies which produce a big amount of greenhouse gas emissions, it needs to build international technological collaboration to be able to incorporate new advanced technology which will allow China to have access to and afford climate friendly technologies in order to reduce greenhouse gas emissions and increase capabilities to mitigate and adapt to climate change.

Therefore, China is mostly interested in having international technology cooperation with the developed countries, which includes creation of an effective technology cooperation mechanism to promote R&D, deployment and transfer of technology of addressing climate change; eliminating obstacles to technology cooperation and transfer in terms of policy, institution, procedures, financial resources and protection of intellectual property rights; initiating incentive measures for technology cooperation and transfer to ensure its occurrence in reality; establishing a special fund for international technology cooperation so that environment-and-climate-friendly technologies are accessible and affordable to developing countries.⁴⁰ China, as a country with relatively low level of economic development, is open to establishing technology cooperation with the developed countries that take the lead and promote the combating of climate change. So far, China is working collaboratively with the U.S in the framework of the Strategic Economic Dialog (SED)⁴¹. As China and the U.S share the burden of the same challenges, they are both very interested in tackling climate change issues together. Also, the EU- China collaboration in the field of technologies includes future

⁴⁰ China's National Climate Change Program, Peoples Republic of China, National Development and Reform Commission, Beijing, June 2007, pp.58-61. ⁴¹ Strategic Economic Dialog, U.S. Department of Treasury, Press Room, September 20, 2006.

establishment of a Sino-European clean energy center by the EU. Therefore, technologies modification to environmentally friendly ones poses the biggest challenge for the country, which is why having the technologies transferred with the assistance and cooperation with the developed world will be a huge contribution to the achievement of the objective to reduce greenhouse gas emissions in China.

The guidelines and principles stated in the CNCCP have demonstrated that even though economic development and growth, poverty eradication are core objectives for China, the environmental protection, mitigation and adaptation to climate change are on the Chinese agenda as well. First, China has realized the seriousness of the environmental, economic and social threats posed by climate change to the country, its territories and population and it is committed to fighting it. Although it is a developing country, and so China does not have obligations to cut greenhouse gas emissions, it agrees to take its share of responsibilities to address climate change.

Secondly, China understands that an active participation from its side in the fight against climate change is crucial for the whole planet as nowadays, it has become the largest greenhouse gas emitter that causes climate change. Without China's active involvement in tackling climate change and taking appropriate measures especially in reducing greenhouse gas emissions, the rest of the world's efforts to fight and mitigate climate change are doubted to be successful. ⁴² Therefore, China adheres to the guidelines of the CNCCP and has adopted proactive policies to mitigate and adapt to climate change including measures to adjust the economic structure, change the development patterns, save energy and improve energy efficiency, optimize energy mix and so on. The country also improved the law regime and enforced laws in areas of agriculture, natural ecological systems, water resources, coastal

⁴² China and Global Climate Change: Reconciling International Fairness and Protection of the Atmospheric Commons, Center for Asian and Pacific Countries, January 2009. http://www.ln.edu.hk/caps/conference.php

zones.⁴³ According to the statements of one Chinese official, "China wants to build a new path to industrialization by adjusting development and environmental protection."⁴⁴ However, due to relatively low level of economic development China cannot commit and it refuses to reduce greenhouse gas emissions, transfer technologies, optimize energy mix on its own in a rather short period of time, that is why it asks for and insists on assistance in modifying its technologies from the developed wealthy countries according to the principle of common but differentiated responsibilities. China believes that its right for rapid economic development and growth should be respected by the countries which have already gained high level of economic development and living standards. Therefore, China is open for collaboration in the fields of technologies and other projects to mitigate and adapt to climate change with the developed countries and it is committed to the combating of climate change with the assistance of wealthy states.

⁴³ China's Policies and Actions for Addressing Climate Change, Information Office of the State Council of the People's Republic of China, Beijing, October 2008, pp. 19-53.

⁴⁴ China unveils climate change plan, BBC News, June 4, 2007. http://news.bbc.co.uk/2/hi/asiapacific/6717671.stm

CHAPTER 2: RUSSIA'S NATIONAL ECONOMIC AND ENVIRONMENTAL CIRCUMSTANCES, POSITION AND POLICIES TOWARDS CLIMATE CHANGE

This chapter provides an overview of environmental circumstances in Russia, major features of the Russian economy, and its political stance on the climate change in the country. The environmental, economic and political aspects serve as an explanation of Russia's position on climate change and its impact on the territories, economy and population of the country and the formation of the policies aimed at the mitigation and adaptation to climate change.

In the first section, the major effects of climate change on the environment will be presented and it will be emphasized that climate change has already had and may have positive and negative impacts on the country in the future. The section will look at the current situation of the environment in Russia in different parts of the country exposed to the influence of climate change as well as the future forecast which will provide various environmental scenarios for the future of the Russian territories and the country in general.

The second section is devoted to the economic and political factors that play a significant role in the formation of climate change policy in Russia, as based on these factors the country conducts policies, takes measures and actions aimed at mitigating and adapting to climate change. The analysis of the economic and political aspects of climate change in Russia will provide an explanation why Russia has not had a solid approach to the issues of climate change.

2.1. Climate change impacts on the environment in Russia

2.1.1. Major positive and negative effects of climate change

Since a significant part of Russia is currently affected by the processes of global warming, climate change is creating a new situation and conditions in Russia which may place under risk the country's development and national security in the nearest future. There are several assessments of the climate change impacts on the environment in Russia conducted by scientists from different countries. The difficulties which occur during the assessment of climate change are the size, geographic diversity of Russia and the unprecedented rate of climate change advancement.⁴⁵

Climate change and its impact on the natural environment in the different regions of Russia are summarized in the Russia country paper on climate change that was released in the summer of 2007. Another report prepared at the beginning of 2009 by Green Peace outlines the negative and positive consequences of global warming in various areas such as agriculture, housing and communal services, hydropower engineering, navigation, ecosystems, water consumption and others. These two papers are recent and they provide the most comprehensive and up-to-date overview on climate change in Russia, its impacts on the country's environment and economy and the future consequences.

According to the assessments made in the Russia climate change reports, climate change and global warming may bring some positive effects and contribute to the Russian economy in the future. ⁴⁶ For instance, the rise in temperature up to 2 or 3°C could be beneficial due to an increase in productive agricultural land, improvement of conditions for

⁴⁵ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, Human Development Report Office Occasional Paper, 2007/12, 3 June 2007, p.12

⁴⁶ *Ibid.* and Climate change: advantages and disadvantages for Russia, Greenpeace Russia, January 14, 2009 http://www.greenpeace.org/russia/ru/press/reports/2921111

growing yield crops, short less severe winters, lower winter human mortality, lower heating requirements and substantial reduction of energy consumption, a potential boost of the tourism sector, an easier access to oil and gas fields in Siberia and in the North of Russia, including the Arctic. Increasing annual temperatures will also result in a shorter period of rivers freezing over and the development of river navigation. However, all these so-called positive effects are uncertain and can be more than counterbalanced by the negative consequences for biodiversity in a large part of the country, possible threats to the infrastructure on Russian North territories and a great need for new technologies to exploit the Arctic.⁴⁷

Apart from that, the negative effects on the ecosystem include non-uniform distribution of precipitation in cold and warm seasons, increased heavy rains in West Russia and a decrease in Siberia, the growth of the annual Siberian river runoff, an increase in the size of underground waters, shifts of climatic zone borders, heatwaves, spread of desertification, and more frequent floods and droughts, which cause damage to yield crops in several regions of Russia. Thus, the most fertile black earth regions on Southern Russia could be exposed to droughts and the reduction of harvests.⁴⁸ Apart from that, recent studies conducted by Green Peace and Working Group II in the Fourth Assessment report have demonstrated that global warming causes growing frequency of fires of Siberian peatlands and forests, outbursts of forest diseases and increasing prevalence and extension of borders of such diseases as malaria and tick-borne encephalitis. Climate change may become a reason of worsening of water

⁴⁷ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, Human Development Report Office Occasional Paper, 2007/12, 3 June 2007, p.12 and "Global warming will help Russian economy - US intelligence". Art&Fun, 21 November, 2008. http://www.russiatoday.com/Art_and_Fun/2008/21/Global_warming_will_help_Russian_economy_US_intelli gence.html ⁴⁸ *Ibid.* pp.12-13.

quality and changes in the amount of precipitation and quality of drinking water may cause an increase of infectious diseases.⁴⁹

To sum up, the positive effects of climate change may be beneficial for the Russian economy, lifestyle of people living in the cold parts of Russia, agriculture and several other areas. Still, it is proven by scientists that there are more negative outcomes than positive that may be brought on by climate change in Russia, including severe changes in precipitation, droughts, appearance of diseases, and forest fires and several other negative changes.

2.1. 2. Impact of climate change on the Russian Arctic

The Arctic tundrapermafrost area, which occupies about 60% of the total area of Russia, is especially vulnerable to the processes of climate change and will become the region most affected by global warming. Apart from that, the Arctic region deserves special attention, since many states, Russia, the US, Canada, Norway and Denmark have disputes concerning the sovereignty of the Arctic.⁵⁰ The Arctic is a very attractive region for these countries, as the changes in climate may make the natural resources of the region reachable as well as the seaways and bio-resources in the Arctic region accessible.

The Russian Arctic, which is covered with permafrost, is about 6.2 million square kilometers. The permafrost boundaries have shifted to the north, and deepened surface melt may bring a number of impacts on future natural resources investment projects and for the local people who are adapted to the cold weather. At present, indigenous people have already registered some changes in climate, for example, the reduced thickness of ice complicates hunting, or the absence of ice during summers and falls, which leads to the decrease in

⁴⁹ Rex Victor Cruz, Hideo Harasawa, Murari Lal, Shaohong Wu, Working Group II Report "Impacts, Adaptation and Vulnerability", IPCC Fourth Assessment Report, Chapter 10, 2007, p. 486 http://www.ipccwg2.gov/AR4/website/10.pdf and Climate change: advantages and disadvantages for Russia, Greenpeace Russia, January 14, 2009 http://www.greenpeace.org/russia/ru/press/reports/2921111

⁵⁰ V. Katcov, V. Meleshko and others, "Climate Change and National Security of the RF", *Journal "Rights and Security*", No 1-2 (22-23), July 2007, p.6.

walruse population, which is the main food source for the local people in North Russia. Moreover, shifting permafrost conditions release greenhouse gases, which is likely to result in flooding and affect people's settlement located on coastal and river banks, as well as weaken infrastructure such as the Baikal Amur railway and the planned East Siberia-Pacific export oil pipeline.⁵¹

The increasing temperatures and melting of the permafrost may result in a change in its strength characteristics and bearing capacity, thus causing significant damage to buildings and roads in the Northern parts of Russia: reduction of operating life of buildings, need for new technologies for building construction, difficulties in communication, transportation and goods delivery to far located and hard-to-reach regions of Russia. However, global warming in the Arctic will extend periods of navigation on the Northern Sea and Siberian Rivers, and the conditions for navigation will be improved and will lead to migration and development of the region. New opportunities such as oil exploration, movement of natural resources through the Arctic seas, freight and tourism may take place in the future as well.⁵²

To summarize the impacts of climate change that have already affected the Arctic region and may dramatically influence the situation there in the future, it is important to emphasize that the consequences could be considered both positive and negative for Russia. On the one hand, melting of permafrost may contribute to the Russian economy, while on the other hand, negative effects of climate change are too dangerous for the future of the national security of Russia, indigenous population and the Russian infrastructure in the Arctic region.

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⁵¹ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, Human Development Report Office Occasional Paper, 2007/12, 3 June 2007, pp.15-18. ⁵² Ibid.

2.2. Economic and political aspects of climate change policy in Russia

In this section economic and political aspects of climate change policy in Russia will be presented and analyzed in order to find out what factors influence the formation of climate change policy in the country. Both economic and political aspects are important, as the position of Russia towards the problem of climate change is shaped based on these factors, and the policies aimed at mitigating the changes are also conducted according to them.

2.2.1. Specificity of climate change situation in Russia

Climate change in Russia is mainly caused by the high accumulation of anthropogenic greenhouse gases in the atmosphere, and it is becoming a very important issue in the country. At present, Russia is the world's third highest greenhouse gas emitter. ⁵³ Significant amounts of Russia's greenhouse gas emissions come from its large petroleum industry, particularly its natural gas industry.⁵⁴ A significant number of Russian enterprises and plants still utilize old power-consuming equipment, therefore, at present the rate of energy output in the country 2.3 times exceeds the average world rate and 3.2 times the EU's energy output rate.⁵⁵ Therefore, in order to mitigate and adapt to climate change in Russia, it is necessary to reduce greenhouse gas emissions, mostly by conserving energy, utilizing power efficiently and improving resource efficiency.⁵⁶

The impact of climate change on Russia results not only in environmental consequences but also changes in socio-economic and security spheres that are involved in

⁵³ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, *Human Development Report Office Occasional Paper*, 2007/12, 3 June 2007, p.9.

⁵⁴ *Ibid*.

⁵⁵ Kyoto's mechanisms, Climate Change. Ru. http://climatechange.ru/node/60#

⁵⁶ Climate doctrine is adopted in Russia, WWF Russia, April 23, 2009. http://www.wwf.ru/resources/news/article/4996/

the spatial and economic development of the country. ⁵⁷ That is why nowadays it is crucial for Russia to approach the problem of climate change seriously. The peculiarity of the climate change situation in Russia is that the climate change and its consequences may transfer from environmental issues to several political problems. One of the striking examples of this is the Arctic region, which is of major interest to both Russia and many other countries, including some outside of the region.⁵⁸ In fact, observed changes in climate of the Arctic region in the last decades may dramatically worsen the present relations between Russia and other states and provoke new conflicts concerning the sovereignty of the region, as melting of the ice is likely to give rise to an international race for the oil and gas resources deposited there. Different states interested in the Arctic region have dissimilar positions on international borders in the Arctic Ocean, and the related conflicts may grow as the access to natural resources becomes easier.⁵⁹ Therefore, in order to preserve stability in the Arctic region and avoid international conflicts with other states, it is especially crucial for Russia to adopt policies aimed at mitigating climate change, particularly, to take preventive and adaptive measures in the Arctic region.

Another consequence of climate change which may lead to international disagreements and turn into a problem for Russia is the migration of people populating the neighboring countries, such as China and Japan, which territory is likely to be inarable and uninhabitable due to the changes in climate. The Far East region in Russia and East Siberia may become an interest to China and Japan, and they are likely to claim rights for Russia's territories and

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⁵⁷ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, *Human Development Report Office Occasional Paper*, 2007/12, 3 June 2007, p.2.

⁵⁸ V. Katcov, V. Meleshko and others, "Climate Change and National Security of the RF", *Journal "Rights and Security*", No 1-2 (22-23), July 2007, p.6.

⁵⁹ Ibid.

natural resources deposits⁶⁰. Therefore, the Russian government is concerned about climate change problems globally and in the country, and it realizes the necessity to take certain measures in order to mitigate the changes in climate.

2.1.2. Political and economic factors that deter climate change policies in Russia

Although there is a great possibility for international conflicts to arise from the changes in climate, the Russian government does not have yet a well-defined strategy to address the climate change. Unlike the developed countries, China and India, Russia has not yet introduced comprehensive policies, measures and actions aimed at reducing greenhouse gas emissions and tackling climate change issues, and these policies are yet at the initial stage of development. There are several reasons for such a delay in taking certain measures to mitigate and adapt to climate change, which are interrelated and derive from each other.

First of all, the Russian government has just recently officially acknowledged the anthropogenic character of climate change and its mainly negative influence on the environment, economy and people's lifestyle in the country. Although at the meeting, devoted to the problems of climate change in Russia, it was stated that at present, the changes in climate to a large extent are positive for Russia's environment and economy, in the nearest future the situation may change dramatically and the country can face a lot of trouble, including droughts in the south, floods in the north, storms and permafrost melting, that will require a lot of adaptation efforts.⁶¹ Thereby, in the past Russia focused on the benefits it may receive with the processes of climate change, whereas currently it concentrates its attention more on the potential high costs the climate change may result in if no immediate measures

⁶⁰ Dmitryi Zhuravlev, "Global Warming-a conflict detonator or a stimulator of co- development of Russia and China", Institute of Religion and Policy, http://www.i-r-p.ru/page/stream-exchange/index-12546.html

⁶¹ "Climate doctrine is adopted in Russia", WWF Russia, April 23, 2009. http://www.wwf.ru/resources/news/article/4996/

are taken by the government.⁶² Therefore, Russia is in the process of changing its opinion, assumptions and its stance concerning the impacts of climate change on the country, which is why it has not yet pursued solid policies towards reducing greenhouse gas emissions and the combating climate change in general.

The second reason why Russia in the recent past did not take active and serious actions to fight climate change including the reduction of greenhouse gas emissions, is that before, commitments to reduce the emissions by decreasing energy consumption and improving the resource and energy efficiency were considered to be a potential risk to stable economic growth in Russia, which is a number one priority for the country,⁶³ since sustaining growth requires large energy and big influx of capital to the industrial sector and infrastructure. Thus, Russia places economic growth at the top of the national agenda and is not keen to jeopardize this growth by reducing greenhouse gas emission, especially by doing large investments to transfer the technologies from the old power-consuming ones to new ones that lower carboxylc capacity and increase energy efficiency of the industry,⁶⁴ which is why the Russian government before did not approach the problem of climate change seriously and did not introduce measures to reduce the emissions.

However, recently the Minister of Natural Resources publicly stated that "mitigation policies aimed at reducing greenhouse gas emissions have a positive rather than a negative impact on the Russian economy".⁶⁵ Therefore, in the nearest future, Russia may realize that introducing policies and taking measures to mitigate and adapt to climate change may be beneficial for the Russian economic growth.

⁶² "Climate doctrine is adopted in Russia", WWF Russia, April 23, 2009. http://www.wwf.ru/resources/news/article/4996/

⁶³ Ann Korppoo, "Is the new 'climate doctrine' marking a turning point in Russian policy?", The Finnish Institute of International Affairs, April 24, 2009. http://www.upi-fiia.fi/fi/blog/149/

⁶⁴ Kyoto's Mechanisms, Climate Change. Ru. http://climatechange.ru/node/60#

⁶⁵Ann Korppoo, "Is the new 'climate doctrine' marking a turning point in Russian policy?", The Finnish Institute of International Affairs, April 24, 2009. http://www.upi-fiia.fi/fi/blog/149/

Thirdly, nowadays, there are many other vulnerable areas in Russia that are more vital than the climate change issues, and that is why climate change is not at the top of the agenda in the country. The internal weaknesses that include serious demographic declines, epidemics of HIV/AID, relatively low quality of people's life and social welfare represent the most vital problems of the country and are to be addressed first by the Russian government.⁶⁶ Moreover, according to the Russian national priorities projects program prepared by the government, the four areas of education, housing, agriculture and healthcare are the key priorities that require certain policies and measures in order to improve the living standards of the Russian population.⁶⁷ Therefore, since the government in the country prioritizes the economic growth, improvement of quality of people's life and social issues, the problem of climate change receives less attention. Also as education, housing, agriculture and healthcare are national priorities in the country that require a lot of work and financing from the government, Russia is not able to take measures to mitigate climate change, reduce greenhouse gas emissions and adapt to the climate change in a short period of time, since the area of climate change demands much effort and financing.

Another reason why the policies and measures aimed at mitigating and adapting to climate change are not actively getting introduced is that at present systematic government supervision of climate change and its impacts on the environment, economy and other sectors is lacking in Russia and there are only a few projects on climate change currently performed in the country in close cooperation with the Russian government. These projects, conducted within the framework of federal programs with the assistance of the Russian fund of fundamental research or international cooperation, have weak cooperation with each other as

⁶⁶ Ariel Cohen, "Domestic Factors Driving Russia's Foreign Policy", The Heritage Foundation, November 19, 2007. http://www.heritage.org/Research/RussiaandEurasia/bg2084.cfm

⁶⁷ Russian Priority National Projects, Eurasia strategies Group, Moscow, Kiev, Astana, Almaty, February, 2007. http://www.mmdcee.com/content/Thinkpiece_2_PNPs.pdf

they belong to different ministries and agencies. ⁶⁸ In fact, the various ministries of Russia interested in getting a scientifically grounded and detailed picture of changes in climate in the 21st century as well as in a longer prospective have limited access to such information due to the insufficient research in the field of climate change and its impacts on the environment, economy and other sectors of the country done by the research institutes financed by the Russian government.

In fact, at the present time, several non-governmental organizations, such as Wild World Fund (WWF), Green Peace and Russian Regional Environmental Center, are actively working on the issues of climate change, but they do not have close cooperation with the government of Russia. Therefore, since the Russian government did not pay much attention to the issues of climate change in the last twenty years, the national science of climate change in the country was developing slowly. The state of Russian science is considered to be critical, and the research, which the government can refer to, is insufficient, which is why Russia has just acknowledged anthropogenic character of climate change, its mainly negative influence on the environment, economy and people's lifestyle in the country, and it is now in the process of working on climate change policies. ⁶⁹Therefore, proactive policies and measures aimed at mitigating and adapting to climate change have not been adopted yet.

In addition, the Russian science of climate change lost its world leading position at the beginning of 21st century. ⁷⁰ There is a lack of modern technologies and equipment, which is why it cannot afford performing sufficient research in the field of climate change. Russian scientists need much time and effort to find out and conclude how climate change affects the country, what measures have to be taken in order to mitigate and adapt to climate change.

⁶⁸ V. Katcov, V. Meleshko and others, "Climate Change and National Security of the RF", *Journal "Rights and Security*", No 1-2 (22-23), July 2007, pp.6 and 8.

⁶⁹ *Ibid.* p.2.

⁷⁰ *Ibid.* p. 8.

Therefore, the weak state of the science in Russia and its inadequate research may pose future threats to the national security of the country because the country can face difficulties in forming an independent scientific position on issues of climate change and taking political and economic decisions related to it due the lack of scientific substantiation. Also, the critical state of the Russian science may result in many uncertainties in assessments and consequences of climate change in Russia that directly influences the formation of climate change policy in the country.

Apart from that, the heavy Russian bureaucracy, the presence of nine different ministries and agencies, including Ministry of Natural Resources, Ministry of Agriculture, Ministry of Education and Science and others, that deal with climate change and sustainable energy issues, have a low level of cooperation with each other⁷¹, and the lack of attention to the seriousness of climate change in Russia. The bureaucracy and the large number of ministries have deterred many initiatives aimed at tackling the issues of climate change, and thus the problem of climate change was not addressed at the highest political level in the country.⁷² Therefore, Russia has just recently started actively working on adopting policies and taking actions to mitigate and adapt to climate change as the impacts of climate change were not considered to be serious and important for the country.

Furthermore, dealing with climate change requires changes in the traditional ways of production and consumption, the increase of social and environmental responsibility of business and the participation of the whole society including policy makers, the business

⁷¹ Michael Kozeltsev, Working with Russia on climate change: Barriers and Opportunities for Enhancing EU-Russia Dialogue, Russian regional Environmental Center, December 10, 2008. http://www.ies.be/files/repo/Michael_Kozeltsev_101208.pdf

⁷² Ann Korppoo, "Is the new 'climate doctrine' marking a turning point in Russian policy?", The Finnish Institute of International Affairs, April 24, 2009. http://www.upi-fiia.fi/fi/blog/149/

sector and public. ⁷³In order to involve the population in the fight against climate change and exert pressure on the government thus making it take proactive actions to reduce greenhouse gas emissions and mitigate climate change, it is necessary to inform people about the problem of climate change. Even though an educational-informative program was launched by WWF in 2006 in Russia, the level of awareness concerning negative effects of climate change in Russia is still low. Therefore, due to the insufficient general awareness of the issue and insignificant quantity of active civil society, the Russian government is not under pressure to adopt climate change policies and take active measures to mitigate and adapt to climate change.

Despite all the facts that deter Russia from taking a serious approach to climate change issues and adopting the corresponding policies (see Table 1 below), Russia today actively participates in the international negotiations under the UNFCCC, G8, and other meetings where the issues of climate change are raised and discussed, and it is a party to the Kyoto Protocol which contributes to the transition of the country to sustainable development and according to which Russia is expected to fulfill the national commitments to reduce greenhouse gas emissions in the period from 2008 to 2012 at the level of country's emissions in 1990, raise its energy efficiency and adapt to climate change.⁷⁴ Even though Russia's economic growth is expected to result in an increase of the greenhouse gas emissions, it is still likely to fulfill its quantitative commitments, since Russia's energy-intensive economy

⁷³ Michael Kozeltsev, Working with Russia on climate change: Barriers and Opportunities for Enhancing EU-Russia Dialogue, Russian regional Environmental Center, December 10, 2008. http://www.ies.be/files/repo/Michael_Kozeltsev_101208.pdf

⁷⁴ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, *Human Development Report Office Occasional Paper*, 2007/12, 3 June 2007, p.6.

ended with the collapse of the Soviet Union, and thus the greenhouse gas emissions were cut. Moreover, Russia can use the quota for trade, which could benefit the Russian economy.⁷⁵

Table 1. Factors that impede the government from conducting solid policies of climate change in Russia

 Recent recognition of anthropogenic character of climate change and its negative influence on Russia
 A threat to economic growth of Russia if policies on reduction of greenhouse gas emissions are introduced

3. Dissimilar national priorities

4. Little control of climate change situation in Russia by the government

5. Crisis of the Russian climate change research

6. Restraining of climate change initiatives by the Russian bureaucracy

7. Low awareness of the population of climate change problems

On the national level, only recently, in April 2009, did the Russian government approve a newly presented draft of the Climate Doctrine for Russia. According to the doctrine, climate change may potentially affect the Russian economy and reduce the GDP. At the same time, it is recognized that some changes in climate may be beneficial for the economy at present;

⁷⁵ Renat Perelet, Serguey Pegov and Mikhail Yulkin, 'Climate change, Russia Country Paper', United Nations Development Program, Human Development Report 2007/2008, *Human Development Report Office Occasional Paper*, 2007/12, 3 June 2007, pp.9-10 and Michael Kozeltsev, Working with Russia on climate change: Barriers and Opportunities for Enhancing EU-Russia Dialogue, Russian regional Environmental Center, December 10, 2008. http://www.ies.be/files/repo/Michael_Kozeltsev_101208.pdf

however, in the nearest future the changes in climate will have a negative impact.⁷⁶ Therefore, it is emphasized that Russia needs a concrete domestic climate action plan focusing on the improvements of resource and energy efficiencies that will be good for the Russian economy, more laws and normative acts enforced in the areas vulnerable to climate change in Russia, ⁷⁷ and there is urgency for measures aimed at mitigation and adaptation to climate change, as delays in their implementation will result in higher costs. Nowadays, the governmental programs on energy efficiency and energy conservation and utilization of associated gases are being prepared, which will lead to the cessation of the growth of greenhouse gas emissions and their consecutive reduction. The climate doctrine also sets the responsibilities of ministries for taking measures to mitigate and adapt to climate change.

To sum up, at present, the Russian government, unlike the EU and the U.S., does not have well-defined principles of addressing the climate change issues which could be a solid ground for a number of measures, policies and laws to mitigate and adapt to climate change. Due to features of the Russian governance system, Russia also lacks public administration's supervision of the research conducted in the field of climate change, which does not reach high-politicians who could take certain actions aimed at mitigating and adapting to climate change and bring policies into life. Moreover, several ministries of Russia which deal with climate change have a low level of cooperation, which is why it is a barrier for further development of policies aimed at mitigation and adaptation to climate change.

In addition, the science of climate change in Russia fails to provide the government and its ministries with adequate analysis of climate change impacts and consequences of reduction of greenhouse gases on the environmental, economic and social sectors of the

⁷⁶ Ann Korppoo, "Is the new 'climate doctrine' marking a turning point in Russian policy?", The Finnish Institute of International Affairs, April 24, 2009. http://www.upi-fiia.fi/fi/blog/149/
⁷⁷ Ibid

country, and that is why Russia has only recently recognized the anthropogenic character of climate change and its mainly negative influence on the country and has not created a national strategy how to deal with the changes in climate. Moreover, the population which could take attempts to pressure the government to introduce policies and measures aimed at mitigating climate change, regional policy-makers and business have a low level of awareness of the seriousness of the climate change problem, that is why they are rather inactive and do not participate much in tackling the climate change issues in Russia.

The economic growth which is positioned as number one priority for Russia also has a great impact on the status of development of climate change policies in the country, as the reduction of greenhouse gas emissions requires large investments in new technologies. Moreover, the top national priorities of the country do not include tackling the issues of climate change, and the Russian government addresses demographic and social problems much more actively than the issues of climate change. Therefore, at present, only a few policies have been adopted and a small number of measures have been taken in order to mitigate and adapt to climate change in Russia.

CHAPTER 3: EXTERNAL PRESSURE ON CHINA AND RUSSIA

The climate change policy in China and Russia is influenced not only by the domestic factors that are examined in the first two chapters, but also external influence from the EU as an international actor plays a role in the formation of climate change policies in China and Russia. Therefore, the third chapter focuses on the external factors that have influenced and at present influence the position of China and Russia towards climate change policy and the formation of climate change policy in these countries.

The thesis is based on the assumption that the EU is taking the lead on the international arena in the fight against climate change and that it supports and promotes multilateral cooperation with big international actors such as China, Russia as well as with other developed and developing countries. Besides, the EU uses its diplomatic capabilities to promote actions that are aimed at fighting climate change to other states and getting them on board⁷⁸, thus the EU is able to push and realize its climate change strategies.

Therefore, in the first section of the chapter, external factors from the EU on China will be introduced and analyzed in order to see how the factors affect the formation of climate change policies in China. The second section of the chapter will be devoted to the external influence from the EU on Russia, and conclusions will be drawn in order to show what influences Russia's stance on climate change policies.

⁷⁸ Wu Changhua, China and the EU: together in the climate fight, China Dialogue, July 9, 2008, http://www.chinadialogue.net/article/show/single/en/2190

3.1. External influence on China's position towards climate change

In the past few years, the EU has been watching how some developing countries, in particular China, are increasing their economic growth; what is more, just recently the EU has started to lose its competitiveness and economic vitality in comparison with China.⁷⁹ This fact is one of the reasons why the EU exerts influence on China's position towards climate change and the formation of climate change policy in the country. In fact, the EU does not perceive China as a typical developing country, on the contrary, the EU's opinion is that China is an industrialized competitor and it poses a challenge to the EU.⁸⁰ That is why the EU pressures China to meet the EU's environmental standards on climate change and conduct a fair and responsible policy towards climate change. In other words, the EU thinks that China needs to take a greater responsibility than other developing countries in the fight of climate change and the reduction of greenhouse gas emissions in particular.⁸¹

One of the ways the EU exerts influence on China' policy on climate change is setting standards for the Chinese export goods. Since China is the largest EU trading partner⁸², and the trade relations between the partners involve various economic sectors, the EU adheres to a certain strategy. The strategy involves the promotion of environmentally-friendly goods and setting of environmental requirements on materials, components of goods, which are costly to meet for China's manufactures⁸³, as they have to modify technologies, thus investing much money in new equipment. At the same time, for China, the relations with the EU are of great importance, which is why in order to diminish the environmental barriers that affect China's

 ⁷⁹ Wu Changhua, China and the EU: together in the climate fight, China Dialogue, July 9, 2008, http://www.chinadialogue.net/article/show/single/en/2190
 ⁸⁰ *Ibid.*

⁸¹ *Ibid*.

⁸² Bernice Lee, Nick Mabey, An EU-China Pact is key to a global climate deal, Europe's World, Autumn, 2008. http://www.europesworld.org/EWSettings/Article/tabid/191/ArticleType/articleview/ArticleID/21261/Default.as px

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 ⁸³ Shi Dan, The White Goods Sector: China-Europe Trade, Investments and Technologies, Chinese Academy of Social Science, February, 2008, p.11.

export to the EU, enhance the trade relations with its partner, and attract investments from the EU to the different sectors of the Chinese economy, China is taking measures that meet the international standards set by the EU, save energy, and reduce greenhouse gas emissions.⁸⁴ Therefore, by setting environmental standards to the Chinese export goods, the EU exerts pressure on the Chinese manufactures.

In addition, the EU conceives of China as a crucial partner in the fight against climate change, and the EU realizes that the most important task for the next large negotiations on climate change, and discussions of post-Kyoto agreement is to have China on board, as it is both the biggest emerging economy and one of the major greenhouse gas emitters in the world. ⁸⁵ Therefore, another way to influence China's policy on climate change is to enhance cooperation and strengthen the EU's relations with China on the issues of climate change and energy security. The EU realizes that the combination of both the EU's economic capabilities and China's rapid economic growth may bring many benefits to both partners and push innovation. ⁸⁶

Moreover, the EU is the leader of developing and implementing renewable energy sources,⁸⁷ which is why it has a technological advantage over China and some other developed and developing countries. The EU has a great chance to profit from transferring its renewable energy equipment and technologies⁸⁸ to countries that utilize power-consuming technologies, and China is among them. Therefore, in order to take advantage of the Chinese

⁸⁴ Shi Dan, The White Goods Sector: China-Europe Trade, Investments and Technologies, Chinese Academy of Social Science, February, 2008, p.13.

⁸⁵ Staff Writers, EU to pressure US, emerging countries on climate change, Space Daily, January 25, 2009, http://www.spacedaily.com/reports/EU_to_pressure_US_emerging_countries_on_climate_change_999.html
⁸⁶ Bernice Lee, Nick Mabey, An EU-China Pact is key to a global climate deal, Europe's World, Autumn, 2008. http://www.europesworld.org/EWSettings/Article/tabid/191/ArticleType/articleview/ArticleID/21261/Default.as

px ⁸⁷ Wu Changhua, China and the EU: together in the climate fight, China Dialogue, July 9, 2008,

http://www.chinadialogue.net/article/show/single/en/2190

⁸⁸ *Ibid*.

market that does not have renewable energy technologies, the EU is pushing its climate change standards to China.

To sum up the external influence exerted by the EU on the formation of China's climate change policy, several factors need to be mentioned. These are the EU's environmental standards for Chinese export goods to the EU, close cooperation with China that may help to get China on board of the post-Kyoto protocol, and technological advantage in renewable energy technologies that may profit the EU's economy.

3.2. External influence on Russia's position towards policies of climate change

In the case of Russia, the EU has also exerted influence and still has an impact on Russia's stance on climate change policy. It is of a great significance to commit Russia to reducing its greenhouse gas emissions and make Russia support the EU's climate change strategies set in the Kyoto protocol and its future successor because firstly, Russia is one of the biggest greenhouse gas emitters and it poses a grave threat to the global environment. Secondly, the EU needs to have Russia's support for the EU's climate change strategies as to have Russia on board is essential for the Kyoto-protocol successor to enter into force.

Since the adoption of the Kyoto protocol in 1997 that has been continuously favored by the EU⁸⁹, and that Russia is a party to, the EU has taken attempts to put pressure on Russia to ratify the Kyoto protocol. ⁹⁰ The reason for the pressure was that the protocol could not come into force without having been signed by not less than fifty-five states that are parties to the protocol, including the developed countries, which produce at least 55 % of total greenhouse

⁸⁹ The Kyoto Protocol and the EU, Europedia.moussis.eu. http://82.103.137.36/europedia/discus/discus-1230747802-321327-28435.tkl

⁹⁰ Steven Castle, EU ministers put pressure on wavering Russia to ratify Kyoto protocol, The Independent, July 21, 2003. http://www.independent.co.uk/environment/eu-ministers-put-pressure-on-wavering-russia-to-ratify-kyoto-protocol-587494.html

gas emissions in 1990.⁹¹ The U.S., due to their national economic interests, refused to ratify it ⁹², which is why ratification of Russia was essential. Moreover, the international negotiations concerning the Kyoto protocol have lasted for several years, therefore, if Russia did not ratify the protocol it would set back the global effort to fight climate change⁹³ and pose a big threat to the world, since none of the measures to reduce greenhouse gas emissions would be taken, thus the process of climate change would not be mitigated. Since the EU was interested in persuading Russia to ratify the Kyoto protocol and bring the protocol into force, therefore, the EU exerted influence on Russia to get it on board and to commit to the requirements of the Kyoto protocol by using several tools.

One of the bargaining chips the EU used to influence Russia was investments to Russian emission-cutting technologies. In fact, the EU stated that it was interested in investing to the Russian industry and changing the old power-consuming technologies. Therefore, the idea of investments in clean technologies in Russia, proposed by the EU, would attract the Russian government and influence its decision to ratify the Kyoto protocol,⁹⁴ because the investments would benefit the Russian economy.

Another leverage that the EU used in order to get Russia on board of the Kyoto protocol was World Trade Organization (WTO) accession⁹⁵. In fact, Russia and the EU have been conducting negotiations concerning Russia's accession to WTO for several years. However, in order to access the organization, Russia needed to accept and implement all the key WTO disciplines, including market access commitments in goods and services and others,

⁹¹ Kyoto Protocol and the problems of its ratification, *Journal "Meteorology and hydrology"*, Ministry of Natural Resources and Ecology of the RF, November, 2002.

⁹² Russia faces storm of protest over climate change, Friends of the Earth, September 8, 2003. http://www.foe.co.uk/resource/press_releases/russia_faces_storm_of_prot.html

⁹³ Steven Castle, EU ministers put pressure on wavering Russia to ratify Kyoto protocol, The Independent, July 21, 2003. http://www.independent.co.uk/environment/eu-ministers-put-pressure-on-wavering-russia-to-ratify-kyoto-protocol-587494.html

⁹⁴ Ibid.

⁹⁵ Wybe Th. Douma, The EU, Russia and Climate Change, T.M.C. Asser Institute, December 10, 2008, http://www.ies.be/files/repo/Wybe_Douma_101208.pdf

by the time of accession. ⁹⁶ Besides, one of the Russian officials stated that "the breakthrough on Russian accession to WTO was ratification of the Kyoto protocol",⁹⁷, as the EU needed Russia to ratify the Kyoto protocol, and because its ratification would complete the requirements of the protocol to enter into force. Therefore, due to the fact that ratification of the protocol can be considered as one of the steps to fulfill in order to move forward to WTO membership for Russia, the EU used the WTO accession as a bargaining chip to get Russia on board of the Kyoto protocol. And in February 2005, the Kyoto protocol was ratified by the Russian State Duma and entered into force.

Nowadays, the EU still tries to exert influence on the Russian government and make it conduct more environmentally-friendly policies as the EU is getting ready for negotiations of the post-Kyoto agreement in the end of 2009, and the Russian support for the post-Kyoto agreement is very important for the EU. In fact, Russia can be a difficult partner in the post-Kyoto climate change negotiations as the country has set objectives to increase the economic growth, thus increasing electricity production and exports of the natural resources.⁹⁸ Therefore, the EU's goal is to motivate Russia to conduct policies aimed at reducing greenhouse gas emissions and mitigating climate change and to influence Russia's position on climate change so Russia can get involved in the post-Kyoto climate change agreement and commit to the agreement's requirements.

One of the means to influence Russia's position on climate change policy is cofinancing of the Russian research and study on the economic impact of climate change on the

⁹⁶ Pascal Lamy, WTO accession: What is in it for Russia, Russia, the International Economy and WTO, Moscow, March 30, 2001, http://trade.ec.europa.eu/doclib/docs/2004/october/tradoc_119401.pdf

⁹⁷ EU Climate Change Policy, ed. M.Peters, K. Deketelaere, New Horizons in Environmental law, http://books.google.hu/books?id=CmDGGjkVHAEC&pg=PA61&lpg=PA61&dq=WTO+accession+Russia+EU+climate+change&source=bl&ots=K4jgEdAUSJ&sig=mf9xq4mboWvXLfz6QOfNyIb3ezI&hl=hu&ei=yGwVSr6VL5nU-Qb_zfXpDA&sa=X&oi=book_result&ct=result&resnum=3#PPP1,M1

⁹⁸ Focus on Climate Change Could Depoliticize EU-Russian Debate, Spiegel Online International, January 22, 2009, http://www.spiegel.de/international/world/0,1518,602935,00.html

country⁹⁹, which could help the Russian government realize that the impacts of climate change may affect the economy of the country dramatically, and serve as a motivation to adopt policies to address the issues of climate change.

Another way to influence Russia and get it on board of the post-Kyoto agreement is taking a concerted energy efficiency initiative and developing the area of renewable energy by supplying Russia with advanced technologies and know-how that could be beneficial both for the EU and Russia.¹⁰⁰ Therefore, the EU wants to supply Russia with advanced technologies and know-how because if the country receives them, it will be easier for Russia to meet the climate change requirements set by the EU, and to be on board of the post-Kyoto agreement.

To conclude about the external factors that affect the formation of Russia' climate change policy, it is necessary to mention such bargaining chips as investments to the Russian industry, WTO accession and supply of advanced technologies and know-how to Russia.

⁹⁹ Focus on Climate Change Could Depoliticize EU-Russian Debate, Spiegel Online International, January 22, 2009, http://www.spiegel.de/international/world/0,1518,602935,00.html
¹⁰⁰ Ibid.

CONCLUSION

The present thesis has examined and analyzed the approaches of two major world greenhouse gas emitters and important players in the fight against climate change, China and Russia, to addressing the issues of climate change. The objective of the research was to answer the following question: based on what factors and circumstances do the Chinese and Russian governments conduct policies aimed at mitigating and adapting to climate change? The research has demonstrated that environmental, economic and political factors play a significant role in the formation of climate change policy in China and Russia and influence the position of these countries towards climate change.

The first factor that affects the formation of climate change policies in China and Russia is the environmental factor. Both China and Russia are exposed to different impacts of climate change, some of which have already taken place in the countries and pose a threat to their territories, economies and population. Thus, in China there are four particularly vulnerable areas, crucial for the national economy of the country, which may become problematic for China in the future. They are water resources, agriculture, terrestrial ecosystems and coastal zones. The thesis has shown that the possible threat of negative climate change impacts on the territories and economy of China has served as a motivation for the Chinese government to work actively on the climate change program and take actions to mitigate and adapt climate change to the current environmental circumstances.

As for Russia, it can be concluded that the country has already experienced both negative and positive impacts of climate change. However, the peculiarity of the climate change situation is that the climate change and its consequences may transfer from environmental issues to political conflicts, which is why the Russian government has started taking preventive measures in the Arctic region and it is working on policies aimed at mitigating and adapting to climate change.

The second factor that according to my research influences the formation of climate change policies in China and Russia is the economic one. The analysis of this factor has shown that both China and Russia while conducting their climate change policy, take into account various domestic issues they have to deal with first. Thus, the relatively low level of economic development in China, high rate of poverty, world largest population and coal-dominated energy mix in the country have a large deterrent impact on the approaches taken by the Chinese government towards the climate change issues and the formation of climate change policy in China in general, since the Chinese government has to pay more attention to and deal with the domestic issues prior to the issues of climate change.

Nevertheless, the CNCCP, released by the Chinese government, demonstrates that even though the economic development and growth, and the eradication of poverty are the key objectives for the country, China realizes the seriousness of climate change and has already started adopting policies and taking proactive measures to mitigate and adapt to climate change.

The political factor that affects the formation of Chinese climate change policy is that China sticks to the principle of common but differentiated responsibilities and claims that other states, which are parties to the UNFCCC, need to respect it. Thus China is not obliged to reduce its greenhouse gas emissions, although it is ready to cooperate with the developed countries, transfer technologies, optimize energy mix and with the lapse of time to reduce the emissions.

In the case of Russia, economic growth and the country's four other national priorities have a significant impact on the status of development of climate change policies in Russia and are addressed more actively than the issues of climate change. Also, there is a number of other factors that impede the Russian government from conducting policies aimed at the mitigation and adaptation to climate change. For example, a lack of public administration's supervision of the research conducted in the field of climate change in Russia, low level of cooperation between the ministries and agencies, low awareness of the population of climate change, weak state of climate change research and recent recognition of anthropogenic character of climate change and its negative influence on Russia are the factors that directly influence the formation of climate change policy in Russia. Therefore, the Russian government does not have yet a solid approach to addressing the issues of climate change, but due to the threats climate change may pose to the country, Russia has just recently started to work on policies and measure to mitigate and adapt to climate change. The Russian government has approved a draft of the Climate Doctrine for Russia that sets the responsibilities of ministries for taking measures to mitigate and adapt to climate change, and the governmental programs on energy efficiency and energy conservation and utilization of associated gases are being prepared.

The fourth factor that influences climate change policies in China and Russia is external influence. The EU, which is an international leader in the fight against climate change, is interested in having China and Russia on board in the combat against the processes of climate change, which is why the EU has used several tools to affect the position of China and Russia towards climate change. First of all, the EU's environmental standards for Chinese export goods to the EU, close cooperation with China that may help to get China on board of the post-Kyoto protocol, and technological advantage in renewable energy technologies that may profit the EU's economy are the factors that seem to have an impact on the formation of Chinese climate change policy. Second, in the case of Russia, the EU's investments to the Russian industry have played a certain role in the ratification of the Kyoto protocol by Russia, and at present the investments and supply of advanced technologies to Russia still remain attractive for the country. Also, the WTO accession has served as another bargaining chip in ratification of the Kyoto protocol by Russia.

Overall, to answer the question asked in the title: is there a chance for improvement of climate change policy in China and Russia, it is necessary to emphasize that the chance for improvement exists, but these two countries need to spend much effort and time in order to implement policies and measures aimed at mitigating and adapting to climate change. The thesis has demonstrated that despite the domestic issues both China and Russia face, they have realized the seriousness of the climate change problem and have started to address the problem.

The present thesis is a contribution to the study of climate change policy in China and Russia as in the past there has not been a holistic analysis of the environmental, economic, political and external factors that influence the formation of climate change policy in these two countries. The thesis has concluded that several environmental, economic, political and external factors influence the formation of climate change policy in China and Russia, and that is important because the holistic analysis of the factors that influence the formation of climate change policy in China and Russia, helps to understand the position of both countries on climate change policy, and to forecast the development of climate change policy in China and Russia.

Still, future research is needed to analyze further developments of climate change policy in China and Russia, since both states have recently started to address the problems of climate change, and they are at the initial stage of tackling these issues.

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