



THE FRIDTJOF NANSEN INSTITUTE

China in the International Politics of Climate Change

A Foreign Policy Analysis

By Ida Bjørkum

FNI Report 12/2005

China in the International Politics of Climate Change

A Foreign Policy Analysis

Ida Bjørkum

December 2005



FRIDTJOF NANSENS INSTITUTT
THE FRIDTJOF NANSEN INSTITUTE

Copyright © The Fridtjof Nansen Institute 2005

Title: China in the International Politics of Climate Change:
A Foreign Policy Analysis

Publication Type and Number	Pages
FNI report 12/2005	82
Author	ISBN
Ida Bjørkum	82-7613-481-5
Programme or Project	ISSN
	0801-2431

Abstract

China is expected to produce the world's largest emissions of greenhouse gases within a few decades. China also holds a key position in the international climate change negotiations as one of the leading and most influential actors in the group of developing countries, and can thus be characterized as a key actor for the future success of the global efforts to combat climate change. This report looks into the developments in China's political response to the threat of climate change from the late 1980s when the problem emerged on the international political agenda, until 2004. Three theoretically based explanatory models are employed to identify the factors that have influenced Chinese foreign policy-making on climate change in the past, and furthermore how these factors are likely to influence China's future climate change policy. The three models emphasize respectively: national interests in terms of costs and benefits; domestic political bargaining; and learning through diffusion of knowledge and norms. Among the explanatory factors discussed, economic interests and the primacy of economic growth seem to be most prominent in guiding the direction of China's climate change policy. Both when the state is assumed to act as a unitary actor, and when the political bargaining between different sub-national interests are considered, economic development appears to be more important than any other factors. As in most developing countries, short term costs tend to carry more weight in decision-making than uncertain future costs, even if the latter are potentially larger. The predictive part of the analysis outlines two different scenarios for China's future climate policy. Given the expected increase in energy demand and the limited capacity to substitute coal with other sources of energy, it is not likely that China will accept binding emission reduction targets in the near future. However, increasing recognition and priority of local pollution problems and ambitious energy efficiency goals provide promising avenues for a further decrease in carbon intensity. China's involvement in CDM projects can also provide much-needed technology and attract foreign investments in emission reduction activities

Key Words

Chinese climate change policy; climate change negotiations and developing countries; foreign policy decision making

Orders to:

Fridtjof Nansen Institute
Postboks 326
N-1326 Lysaker, Norway

Phone: (47) 6711 1900
Fax: (47) 6711 1910
Email: post@fni.no
www.fni.no

Contents

Acknowledgements	iii
List of Abbreviations and Acronyms	v
1 Introduction	1
1.1 Research Question and Theoretical Take	3
1.2 Sources of Information and Collection of Data	4
1.3 Structure of Study	5
2 Setting the Stage: The Climate Change Challenge and China	6
2.1 The International Context of China's Climate Policy-making	6
2.1.1 The Climate Change Problem	6
2.1.2 The Climate Change Regime; Formation and Major Developments	7
2.2 The Domestic Context of Climate Change Policy-making	8
2.2.1 The Environmental Situation in China	8
2.2.2 Energy Situation and GHG-emissions	10
3 Theoretical Take on China's Climate Change Policy-making	12
3.1 Defining and Clarifying the Dependent Variable: Aspects of Foreign Policy	12
3.2 Explaining Climate Change Policymaking: Three Approaches	14
3.2.1 The Unitary Rational Actor Model (URA)	15
3.2.2 The Domestic Politics Model (DP)	20
3.2.3 The Social Learning and Ideas Model (SLI)	22
3.3 Summary	25
4 China's Climate Change Policy 1988-2004	26
4.1 First Stage (1988-1992): Climate Change Enters China's Political Agenda	26
4.2 Second Stage (1992-1997): From Rio to Kyoto	27
4.3 Third Stage (1997-): Post-Kyoto Positions	29
4.4 Conceptualizing Trends in China's Climate Change Policy Across Phases	33
5 Empirical Mapping of the Explanatory Factors	36
5.1 Unitary Rational Actor: National Costs and Benefits	36
5.1.1 Expected Damage Costs: China's Vulnerability to Climate Change	36
5.1.2 Expected Abatement Costs (and Benefits)	38
5.1.3 Issue-linkages, Side-payments and Image	40
5.2 The Domestic Climate Change Policy-making Process	42
5.2.1 The Chinese Climate Change Bureaucracy: Actors and Institutions	42

5.2.2	Decision-making Process and Distribution of Power Among Domestic Actors	44
5.3	Learning, Knowledge and Norms	45
5.3.1	The Learning Process in China	45
5.3.2	Climate Change and Perceptions of Equity	46
5.4	Summary	47
6	Empirical Analysis: Juxtaposing Theoretical Insights and Empirical Facts – Explaining China’s Climate Change Policy	48
6.1	The URA Model: Calculating National Costs and Benefits	48
6.1.1	Expected Damage Costs	49
6.1.2	Expected Costs and Benefits of Reducing GHG-emissions	51
6.1.3	External Influences	52
6.2	The DP Model: Domestic Politics Influence on Foreign Policy	53
6.3	The SLI Model: The Influence of Learning and Norms	55
6.3.1	Learning	55
6.3.2	The Influence of Norms – Equity Considerations and Climate Change Policy	56
6.4	Discussion	59
6.4.1	Summary	61
7	A Predictive Extension of the Empirical Analysis: Future Prospects for Chinese Climate Policy	62
7.1	Scenario 1: ‘Business-as-usual’	62
7.2	Scenario 2: Opportunities for a More Proactive Chinese Climate Policy in the Future	64
7.3	Summary	66
8	Conclusion	66
8.1	Summary of findings	66
	Notes	68
	Bibliography	73
Figures		
1	Economic development, population growth and emissions of CO ₂ in China for the period of 1971 to 2000.	10
2	Absolute Carbon Emissions versus Carbon Intensity in China, 1980–1996	11
Tables		
1	Preconditions for a more proactive climate policy	63

Acknowledgements

This report is based on my Master thesis which was submitted to the Norwegian University for Science and Technology (NTNU) in June 2005. First, I would like to thank my main supervisor, Associate Professor Gunnar Fermann at the NTNU for constructive comments, suggestions and professional guidance during the work of my thesis.

I am also grateful to the Fridtjof Nansen Institute (FNI) for financial support, office facilities and for providing an inspiring working environment during my time as an affiliated student at the institute. I would like to thank the FNI staff for providing me with helpful assistance both directly related to the writing process and for more technical matters. A special thanks to Gørild Heggland at FNI who was my co-supervisor. Thank you for sharing your knowledge about China, and for support, advice and encouragement during the writing process. I am also very thankful for our trip to Beijing in November 2004, which was very inspiring and gave me the opportunity to see some of the things I was writing about in real life. I am also grateful to FNI and NTNU for financial support for traveling to China. Furthermore I am thankful to the members of the Global Programme at FNI for useful comments on parts of the manuscript.

Kjersti Koffeld deserves my warmest gratitude for her supportiveness, friendship and for valuable language assistance. Thanks also to friends and fellow students in Trondheim and at FNI, especially Pål, Ellen and Jørgen for enjoyable company and moral support during the final months of the long writing process. Finally I would like to thank my family and especially my sister Ane for commenting on parts of the manuscript, for her great enthusiasm and her encouraging interest in my work.

Oslo, December 2005

Ida Bjørkum

List of Abbreviations and Acronyms

AGBM	Ad Hoc Group to the Berlin Mandate
AOSIS	Alliance of Small Island States
BAPA	Buenos Aires Plan of Action
CDM	Clean Development Mechanism
CMA	China Meteorological Administration (previously SMA)
COP	Conference of the Parties (to the UNFCCC)
DP	Domestic Politics
ENB	Earth Negotiations Bulletin
FCCC	Framework Convention on Climate Change
G77	Group of 77
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Greenhouse Gas
INC	Intergovernmental Negotiating Committee for the UNFCCC
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
MOFA	Ministry of Foreign Affairs
MOST	Ministry of Science and Technology (previously SSTC)
NDRC	National Development and Reform Commission (previously SDPC)
NEPA	National Environmental Protection Agency (now SEPA)
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
SDPC	State Development Planning Commission (now NDRC)
SMA	State Meteorological Administration (now CMA)
SPC	State Planning Commission
SEPA	State Environmental Protection Administration (previously NEPA)
SLI	Social Learning and Ideas
SSTC	State Science and Technology Commission (now MOST)
UNCHE	United Nations Conference on the Human Environment (Stockholm1972)
UNEP	United Nations Environment Programme
URA	Unitary Rational Actor
WMO	World Meteorological Organization
WTO	World Trade Organization

1 Introduction

Climate change, caused by anthropogenic emissions of greenhouse gases (GHGs) released into the atmosphere, is one of the greatest challenges the international community is facing today. In February 2005 the Kyoto Protocol to the UN Framework Convention on Climate Change finally entered into force. After almost fifteen years of international negotiations on the issue of climate change, the entry into force of the Kyoto Protocol was celebrated as a great victory for international environmental cooperation. However, the Protocol only requires a 5% emission reduction from countries that are responsible for about 30% of the world's total greenhouse gas emissions (Alfsen and Holtmark 2005). Even if all countries fulfill their commitments, this great step forward for climate diplomacy will only have minimal impact on the climate change problem.¹ In order to achieve the ultimate objective of the UN Framework Convention on Climate Change of stabilizing '...greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' (FCCC 1992, Art. 2), it is necessary to establish an international agreement far more comprehensive than the Kyoto Protocol with stronger commitments for more countries.

The emission reductions required during the Kyoto-period, from 2008 to 2012 will probably only contribute to a microscopic delay of the ongoing global warming, thus the outcome of the negotiations for a post-Kyoto agreement is crucial for the future of the earth's climate. The greatest challenges for a future regime to become more effective are to get the United States back to the negotiation table and to widen participation to also include large developing countries with rapidly growing economies like Brazil, India and China. The prospects for an American comeback to the Kyoto process are not promising,² consequently the pressure on the developing countries – and in particular the largest emitter of them all, China – will increase.

China can be characterized as a key actor in solving the global climate change problem first and foremost because of the size of its GHG-emissions.³ China is today the world's second largest emitter of gases causing global warming, only exceeded by the US (Zhang 1998: 2). In 1996 China was responsible for 13.5% of the world's total emissions of CO₂ which is the most important of the greenhouse gases, while the US was responsible for 21.3% (ibid.). However, on a per capita basis Chinese emissions are still relatively low - about half of the world average.⁴ China's emissions are not only due to its enormous population, but are also a result of the extraordinary economic growth China has experienced the last two decades and the heavy reliance on coal used to fuel to rapidly expanding energy demands accompanying the economic growth.⁵ China currently ranks as the world's largest consumer and producer of coal (Wei et al. 2004).

In addition to the sheer size of Chinese GHG-emissions, China can also be characterized as a key actor in the climate change negotiations due to its influential position in the 'Group of 77 and China' (hereafter referred

to as 'G77 and China'). 'G77 and China' have acted as a surprisingly unified block in the climate negotiations, despite being a rather heterogeneous group with largely differing interests.⁶ As the largest and most populous developing country, China has played a major role in forming the position of the developing countries in the climate negotiations. The opposition between industrialized countries (the North) and developing countries (the South) has been one of the most problematic aspects of the climate change negotiations and a deep North-South divide permeates almost every aspect of the negotiations (Depledge 2005: 30). The countries in the North are responsible for the decidedly largest part of the GHG emissions that have caused the problems we are facing today – whether these emissions are measured in the current or cumulatively, as energy-related CO₂ emissions or several GHG-emissions taken together (Fermann 1997a: 184-7).⁷ The industrialized countries also have better financial and technological capacity to reduce emissions and to adapt to a changing climate, making them less vulnerable to the possible harmful consequences of climate change such as rising sea-levels, changed patterns of precipitation and higher temperatures. The question of whether developing countries also should be required to reduce their emissions has been a bottleneck in the climate negotiations. The developing countries have consistently refused to accept any reduction targets before the industrialized world recognizes its responsibility and takes action first according to the principle of 'common, but differentiated responsibilities' stipulated in the 1992 UN Framework Convention on Climate Change. Some industrialized countries on the other side, most notably the United States, have conditioned participation on the inclusion of large developing countries, arguing that an agreement without these countries will be less cost-effective and environmentally ineffective. Indeed, one of the most important arguments for the United States' withdrawal from the Kyoto process in 2001 was the lack of 'meaningful participation' from China and other major developing countries.

China's position as a 'key actor' in the efforts to prevent climate change implies that the pressure to reduce emissions will be intensified when the negotiations for the post- Kyoto period begin. Is it likely that China will participate more actively in a future regime? And as important: What will be the substance of China's future participation? It is of course not possible to exactly predict China's future behavior, but its behavior in the past can provide some useful indications of what the future will bring. China has been participating actively in the negotiations from the time they were initiated in the late 1980s until today, ratifying both the UN Framework Convention on Climate Change in 1994, and the Kyoto Protocol in 2002. Nevertheless, China has so far been unwilling to accept any form of abatement commitments justified by arguments based on low per capita emissions, lack of historical responsibility for climate change and the lack of technological and financial resources needed to reduce emissions. As will be thoroughly elaborated later, China's position have been rather consistent throughout the negotiations so far with some exceptions, most notably its position on the Clean Development Mechanism (CDM). The CDM is one of the three so-called flexible mechanisms under the Kyoto Protocol, allowing industrialized countries to invest in emission reduction projects in developing countries to achieve emission reduction credits. Thus their national commitments can be met more cost-

effectively. The CDM was met with skepticism by China when it was proposed in 1997, but has in the later years been received with a much more positive attitude, and is now seen as an opportunity for China to improve its energy efficiency and combat local pollution problems.

1.1 Research Question and Theoretical Take

The purpose of this report is to examine China's role and behavior in the international politics of climate change. The central research question guiding the present study is: *What factors have determined China's climate change policy in the past, and how are these factors likely to influence China's future climate change policy?* In this effort to explain China's past, present and future climate change policy, I will attempt to (i) identify both continuities and discontinuities; (ii) understand the interplay between external and internal forces of influence; and (iii) to interpret China's climate change policy within the wider foreign policy context and underlying foreign policy goals. The focus will be kept on China's *international* response to climate change or what could be termed 'climate change foreign policy'. This implies that I will mainly consider China's climate change policy as it is expressed through China's behavior in the international climate negotiations.

There is a vast literature on international environmental regimes in general, and on the climate change regime in specific. Most of it focus on the regime as a whole and use different forms of regime theoretical approaches, focusing on regime formation, scope or regime effectiveness, and the lack thereof in the case of climate change. However, the literature on the different actors and especially on developing countries like China is limited (Kobayashi 2003: 86). The emergence of trans-national and global environmental problems has made the environment an increasingly important part of states' foreign policies (Fermann 2001). Thus the understanding of foreign policy processes is a central element in the study of international environmental cooperation. After all it is the actual policies and actions of the states that determines the success of international environmental cooperation (Barkdull and Harris 2002: 64). Hence the analytical framework for this report will be based on theoretical approaches to foreign policy decision-making not on approaches to regime-formation, effectiveness, or compliance.

How does one explain how decision-makers arrive at certain foreign policy decisions? There are several different approaches to this question. Here I will make use of three alternative explanatory models; the unitary rational actor model (URA), the domestic politics model (DP) and the social learning and ideas model (SLI), stressing respectively national interests, domestic political bargaining and learning through diffusion of knowledge and norms. By using three models it is possible to approach the same phenomenon from different perspectives emphasizing different explanatory factors. The three models thus provide alternative explanations that can be seen as partly competing, partly complementary. By using different focal points the models explain different aspects of the decision-making process and identify different mechanisms at work. The intention here is not theory-testing, or finding out which of the models that provide the 'best' explanation; the models are rather employed to

function as guidelines for the choice and organization of the different explanatory factors.

1.2 Sources of Information and Collection of Data

The main sources of information for this single-case study are different kinds of literature; books, articles and newspapers about Chinese politics, the climate change regime and Chinese climate policy. Internet sources such as online editions of Chinese newspapers and the Chinese information site about climate change,⁸ have also been useful given the rapid development in both China and the field of climate change. However I have tried to keep in mind that these sources should be used with caution, given that information is still subject to censorship and governmental control in China and thus may be biased. It is also important to remember that the reliability of Chinese statistics about for instance energy use, economic growth and emissions are controversial and subject to debate. It is not possible to avoid this problem totally when dealing with a state like China, but using multiple sources and for instance interviews as supplements may improve the reliability of information.

Chinese domestic politics can not be characterized as transparent, and can be perceived as opaque especially for non-Chinese speakers (Heggelund 2005: 3).⁹ English literature on the internal political processes of China's policy-making on climate change is limited. To my knowledge there is only one major work on domestic climate change policymaking, published in 1994 by Elizabeth Economy. Economy's work provides an in-depth examination of the decision-making process and the different actors' roles (Economy 1994). However, China is a country in rapid development and so is the field of global climate change.

Data about what actually happened during negotiations are based on reports from the different conferences, mainly the Earth Negotiations Bulletin (ENB) published by the International Institute for Sustainable Development (IISD). The ENBs are generally regarded as an independent and reliable source of information, and are widely used by scholars writing about different aspects of the international environmental negotiations.

One problematic aspect has been to distinguish China's position from that of the 'G77 and China', and to figure out to what degree such a distinction exists. In the negotiations the views of 'G77 and China' are often expressed by one 'spokes-country' on behalf of the group and in the reports they are often referred to as one single actor. This is also the case for those that are present at the negotiations. The decision-making process within the 'G77 and China' group is closed to outsiders and it can be difficult to know whose positions are actually represented.¹⁰ I will return to this point later, since it is not only a methodological challenge, but also an aspect of China's behavior in the climate negotiations.

In addition to literature I rely upon a series of semi-formal interviews conducted together with Gørild Heggelund in Beijing between October 25 and November 5, 2004 and one interview with a Norwegian Delegate to the climate negotiations as sources of information. The interviews

conducted in Beijing have provided very useful background information about the policy-making process and gave me an opportunity to experience how the decision-makers involved present the subject. Heggelund, who is a sinologist, researcher and fluent speaker of Chinese, has been following Chinese policy-making on climate change for a long time and I have also used personal conversation with her as a way to acquire more knowledge about the domestic policy process (to supplement the limited literature on the topic).

1.3 Structure of Study

The report is structured as follows. Chapter 2, following the introduction is an empirically based background chapter consisting of two parts. The first part focuses on the international environment in which China's climate behavior takes place by providing a brief general introduction to the climate change problem and the climate change regime. The second part of the background chapter examines the domestic context and provides an overview of the environmental situation in China followed by an exploration of China's contribution to the climate problem and its close links to the energy situation. Chapter 3 presents the theoretical approach to China's climate change policy-making. First it defines foreign policy in general, before it defines and clarifies the dependent variable of this study; China's foreign policy behavior on climate change. The main part of this chapter is the presentation of three different theoretical approaches, their main assumptions and how they can be applied to explain aspects of Chinese climate policy. The theoretical framework identifies and reasons some of the driving forces behind China's behavior, and the opportunities and constraints that define the possibilities for behavior in the international negotiations. Chapter 4 presents the empirical mapping of China's climate change behavior the last fifteen years, with the aim of identifying continuities and discontinuities in China's positions, strategies and behavior. In Chapter 5 the independent variables inspired by the explanatory approaches are mapped and classified.

In Chapter 6 the theoretical insight are considered against the empirical facts in an attempt to answer the research question. First the influence of the different explanatory are considered separately before discussing their respective influence and how they interplay. Chapter 7 is an extension of the empirical analysis in Chapter 6, identifying the possibilities and constraint for a more progressive Chinese approach in the future. The chapter consists of two different scenarios for the course of China's future climate policy. Chapter 8 will sum up the findings and then give some final concluding remarks.

2 Setting the Stage: The Climate Change Challenge and China

This chapter provides an introductory background before China's climate policy and its sources of influence are examined in-depth in the following chapters. The first part focuses on the international context of climate change policy-making. It begins by giving a brief introduction to the climate change problem, and then turns to the climate change negotiations and the major developments in international climate change cooperation. The chapter's second part examines the background of China's participation in global climate change politics by first looking at the relationship between economic growth and China's environmental problems, and then at China's energy situation which is intimately linked to its contribution to the climate change problem.

2.1 The International Context of China's Climate Policy-making

2.1.1 *The Climate Change Problem*

In the earth's atmosphere there is a natural concentration of the so-called greenhouse gases (GHGs) of which the most important are carbon dioxide (CO₂), nitrous oxide (N₂O,) and methane (CH₄), working as a 'greenhouse' surrounding the earth. By preventing the heat produced from solar radiation to disappear directly back into space the natural greenhouse effect makes the earth inhabitable by increasing the average temperature on earth by approximately 30°C (Bolin 1997). As early as in 1896 the Swedish chemist Svante Arrhenius claimed that the increasing amounts of CO₂ in the atmosphere, resulting from combustion of fossil fuels, could enhance the natural greenhouse effect, and thereby cause a rise in the global temperature (Børsting and Fermann 1997: 54).

More than ninety years later, in 1988 the climate problem became a major issue on the international political agenda (Børsting and Fermann 1997: 56). In October that year politicians and scientists from 48 countries met for the 'Toronto Conference on the Changing Atmosphere' in Canada to discuss actions on climate change. The Toronto conference was the first international meeting on climate change and it led to the establishment of the Intergovernmental Panel on Climate Change (IPCC). The IPCC was established by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) in 1988 and was given the task of assessing 'scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation' (Ipcc.ch 2005). IPCC does not carry out research activities or monitoring on its own, but bases its assessments on technical and scientific work of climate scientists worldwide (ibid.). In 1990 IPCC published its First Assessment Report which concluded that there is a broad international scientific consensus that human actions are influencing the climate. The Second Assessment Report was issued in November 1994, and served as a scientific basis for the negotiations that lead to the Kyoto Protocol (Johansen 2001: 9). IPCC's third report was published in

2001 and has served as the scientific basis for climate change negotiations in recent years.¹¹ According to the third assessment report atmospheric concentration of key anthropogenic GHGs reached their highest recorded level in the 1990s, primarily due to combustion of fossil fuels, agriculture and land-use changes (IPCC 2001c: 4).

IPCC estimates furthermore show that the earth's average surface temperature is likely to increase somewhere between 1.4 and 5.8° during this century (IPCC 2001c: 8). Although it is natural that the climate trends vary across time periods, the projected rate of warming is without precedent during the last 10,000 years (*ibid.*). The question is not any longer *if* the climate is changing as a consequence of human activities, but rather how it changes, how much it will change and how fast. Despite the scientific consensus about the fact that we *are* experiencing a global warming due to anthropogenic emissions of GHGs, there are still a lot of uncertainties pertaining to global warming and climate change due to the complexity of the climate system. It is not my intention to take any position in the scientific debate or to evaluate the scientific aspects of climate change. In the scope of this study scientific uncertainty regarding climate change is however important because it is a central aspect of the decision-making process. For every government including the Chinese, the decision on how to respond to global climate change has to be made against the backdrop of the scientific uncertainty about its causes and consequences.

In addition to scientific uncertainty, the scope and time-frame of the climate problem has made it particularly difficult to address. Moreover the gases causing climate change are closely connected to vital parts of the economy in almost every country such as agriculture, industry and energy production. All these factors are contributing to making the climate problem a particularly 'malign' problem and a formidable challenge for international cooperation (Depledge 2005: 18).

2.1.2 The Climate Change Regime: Formation and Major Developments

Based on the findings presented in IPCC's First Assessment Report, an Intergovernmental Negotiating Committee (INC) was established by the 45th session of the UN General Assembly in 1990. The mandate of the INC was to prepare an effective framework convention on climate change. The formal negotiation process started in 1991, when the INC held its first session. During the five INC sessions held in 1991 and 1992, participants from over 150 states discussed different aspects of how to face the climate change problem. The process culminated in the UN Framework Convention for Climate Change (FCCC or 'the Convention'), which was adopted on 9 May 1992. The Convention was opened for signature at the UN Conference on Environment and Development (UNCED) in June 1992 in Rio de Janeiro. In order to prevent dangerous consequences of anthropogenic interference with the climate system, which is the ultimate objective of the Convention, it calls for a stabilization of GHG- emissions on a 1990-level within year 2000. The Parties to the Convention were divided into different groups or Annexes according to their responsibility for and capability to reduce emissions. Annex II countries included the industrialized countries that were members of OECD in 1992. The countries listed as Annex I included countries with

economies in transition in addition to Annex II countries. The rest of the countries, mainly developing countries were grouped as non-Annex I countries (Johansen 2001: 15).

The FCCC entered into force in 1994 after receiving the necessary number of ratifications. The first Conference of the Parties (COP-1) to the Climate Convention in Berlin 1995 agreed on the need for a more specified protocol to follow up the Convention, and gave a mandate to the Ad Hoc Group of the Berlin Mandate (AGBM) to prepare a protocol. The AGBM met eight times between August 1995 and December 1997, and its work subsequently resulted in the well-known Kyoto Protocol adopted at the third Conference of the Parties (COP-3), named after the Japanese city hosting the meeting (ENB 1999: 2). The Kyoto Protocol required Annex I Parties to make legally binding commitments to reduce their emissions of six different GHGs by 5% below 1990 levels during the period 2008-2012. The Kyoto Protocol required ratification by 55 countries, including Annex I Parties responsible for at least 55% of total carbon dioxide emissions by Annex I Parties in 1990 to enter into force (Kyoto Protocol 1997: Art. 25).

At the succeeding Conference of the Parties, COP-4 in Buenos Aires, Argentina, the Parties adopted a set of decisions known as the Buenos Aires Plan of Action (BAPA). Under the BAPA the parties declared their determination to strengthen the implementation of the Convention and prepare the Protocol's entry into force (ENB 1999: 2). At COP-6 in The Hague the negotiations were on the verge of breakdown. However at COP-7 in Marrakech the parties finally managed to complete an agreement on the operational details for the emission reduction commitments under the Kyoto Protocol by adopting the Marrakech Accords to the Bonn Agreements (ENB 2001).

After the US rejection of the Kyoto Protocol in 2001, among other things based on the lack of 'meaningful participation' from developing countries there has been a lot of uncertainties about the future and the viability of the Protocol, something that has dominated the negotiations in the later years (Pew Center 2004). Finally, in November 2004 the Kyoto Protocol was ratified by Russia and thereby ready to enter into force 90 days later. Commitments for the next commitment period after Kyoto, starting in 2013, will be the next central question now that the Kyoto Protocol finally has become effective.

2.2 The Domestic Context of Climate Change Policy-making

2.2.1 The Environmental Situation in China

The tremendous economic growth experienced in China after the economic reforms were launched in 1978, has brought a lot of benefits to the country and its people such as poverty reduction and improved living standards. However, the growth has also had its costs, of which environmental destruction is one of the most serious. According to Saich (2001: 294-9) three main factors have caused the overwhelming environmental problems in today's China. First, the lack of concern for the environment and the extreme privileging of production in the Mao era favored a devel-

opment strategy built on rapid exploitation of natural resources to build up heavy industry. This trend of mastering and exploiting nature was accelerated during the 'Great Leap Forward' (1958-61). The general trend of below-cost pricing of resources like water, coal and energy also resulted in extremely inefficient consumption and other problems like deforestation, water shortage and pollution (Saich 2001: 294).

The second factor is also part of the legacy from Mao Zedong. From the mid-1950s population growth was consciously used as a tool to boost economic growth. The subsequent population boom aggravated the already problematic ratio between resources and population. Today China has one-fifth of the world population, but only 7% of the arable land (Saich 2001: 295). China's population has doubled during the last half century, and is still increasing by approximately 15 million people per year despite the 'one-child-policy'.

The third factor is the rapid economic growth and urbanization during the last two decades. Since the beginning of the reform era in 1978 when Deng Xiaoping launched the 'open-door policy', China has experienced an incredible economic growth of up to 10% annually, which makes it one of the fastest growing economies in the world (Zhang 1998). In spite of the rapid growth the last two decades, China is still in a rather early stage of industrialization. There is an ongoing process of urbanization and the standards of living are rising. However, 900 million people are still officially registered as living in rural areas where the incomes are significantly lower than in the urban areas (Pan 2004). The Chinese government is firmly determined to maintain the fast pace of growth. The legitimacy of the leadership, and thus also social stability depends on the continuation of the economic growth, as the ideological legitimacy of the Communist Party has been weakened after the launch of the economic reforms in 1978 (Buen 1998).

China's participation on the UN Conference on the Human Environment in Stockholm 1972 (UNCHE) marked China's entry into the global environmental discourse (Heggelund 2004: 137). Even though the Chinese delegation to the conference was considered disruptive and unconstructive, their report from the conference spurred the 'First National Conference on Environmental Protection' in 1973 and the establishment of a new organization under the State Council to handle environmental issues (Economy 1994: 141). The participation on the UNCHE thereby resulted in environmental issues entering the political agenda in China.

Although the attention paid to environmental protection has increased in recent years,¹² the environmental situation in China is far from being under control. Still China faces a wide range of environmentally related challenges such as pollution of air and water, acid rain, desertification and resource depletion among others. According to World Bank estimates economic losses due to air and water pollution was 54 billion US dollars in 1998, which is 8% of China's GDP, compared to less than 1% in Japan and about 1% in US (Wang 2002: 187). The losses are among other factors due to an estimated number of 178 000 premature deaths annually, lost productivity due to health problems among workers, and lost output

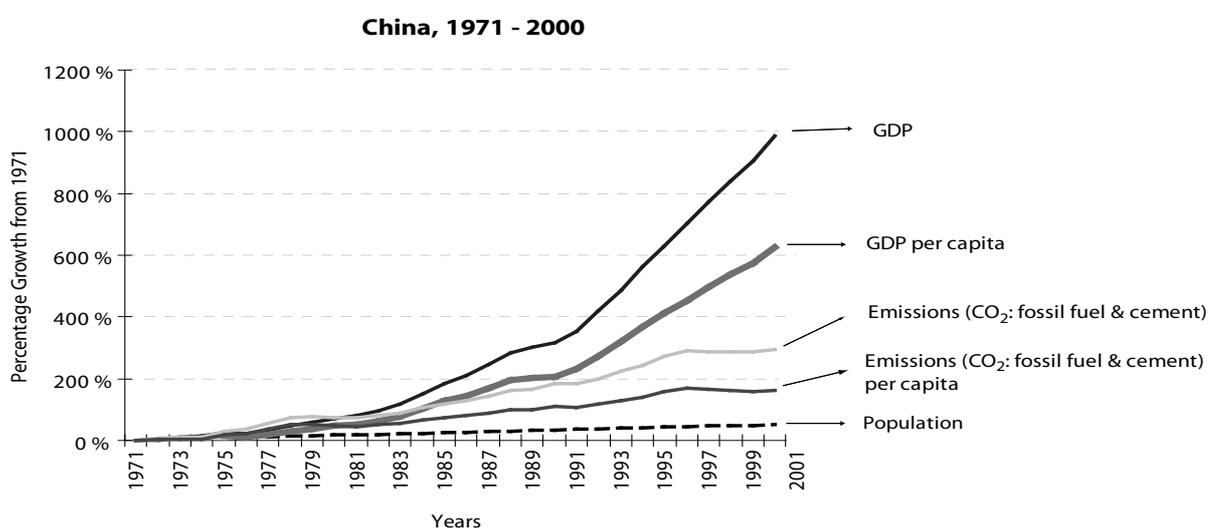
from agriculture and forestry caused by acid rain and water shortages (ibid.).

2.2.2 Energy Situation and GHG-emissions

In essence, China's emissions of greenhouse gases can be explained as a result of the size of the population, now counting 1.3 billion; the rapid economic growth; and China's energy structure which is troubled by inefficiency, energy shortages and a heavy reliance on coal.

The combination of these three conditions have made China the second largest emitter of greenhouse gases only exceeded by the US (see Figure 1).

Figure 1: Economic development, population growth and emissions of CO₂ in China for the period of 1971 to 2000.



Source: CAIT-database (WRI 2004) in Bang et al. 2005: 23

Due to economic growth, industrialization and urbanization energy use in China has increased by 208% between 1970 and 1990 (Hatch 2003: 45). A large share of the growing energy demand has been covered by the use of fossil fuels and especially coal.¹³ Coal is by far the most common source of energy in China, because it is abundant, cheap and reliable.¹⁴ In 1998 71% of energy consumption was covered by coal, making China the world's largest producer and consumer of coal (Zhou et. 2000).

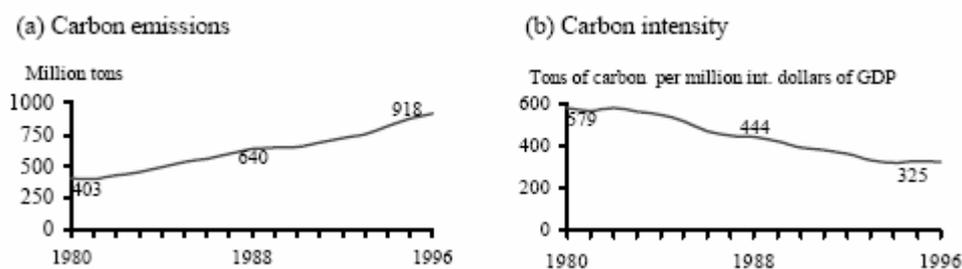
The consumption of oil is steadily growing,¹⁵ mostly due to the expanding transportation sector and for industrial use. China became a net oil importer in 1993, when domestic production stagnated while the demand for industry and transportation skyrocketed (Zhou et al. 2000: 8). China's oil imports are expected to continue to increase for decades. The rapid expansion of the automobile market in China will lead to an even greater increase in the demand for petroleum (Pan 2004: 22).¹⁶ In fact, a fourth of

the growth in global consumption of oil in the period 1996-2001 was due to China's increased demand for oil (Glomsrød 2002: 36).

Today, 23 million Chinese still have no access to electric power of any kind (Chandler et al. 2002: 13) and per capita energy use is one tenth of the United States in 1998 (Zhou et al. 2000: 1). Consequently a further increase in energy demand, in particular due to the growing electricity use, seems inevitable.¹⁷ Although the energy consumption is growing rapidly, the energy intensity, i.e. energy used per unit of GDP produced has declined markedly in China the last decades, and is expected to further decline in the years to come (China Daily 2004).¹⁸ This is due to reduction in coal subsidies, energy efficiency measures and energy conservation. For instance coal subsidies in China fell from 61% in 1984 to 29% in 1995 (Baumert et al 1999: 9). Nonetheless, Chinese industry still consumes much more energy per unit of output than those in industrialized countries (Zhou et al. 2000: 2).

Along with energy use, China's greenhouse gas emissions have grown rapidly the last twenty years; the emissions of CO₂ have far more than doubled from 1980 to 1997 from 359 million tons of carbon (MtC) in 1980 to 847 MtC in 1997. This equals an annual growth rate of 5.2% (Zhang 1999: 65). As well as energy intensity, the carbon intensity of the Chinese economy has also declined markedly (see Figure 2). China is one of very few developing countries where carbon intensity has actually declined (Baumert et al. 1999). Zhang (1999) argues that without the efforts to reduce energy intensity, China's CO₂-emissions in 1997 would have been more than 50% (or 432 MtC) higher than the actual emission level. There are different estimates of China's future emissions (e.g. Baumert et al. 1999: 6). However, there seems to be agreement that the question is not *if* China will surpass the United States and become the world's leading emitter of CO₂, but rather *when* it will happen. According to Zhang (1999: 65) China's emissions are expected to rise to 2031 MtC by 2020, and will thereby exceed the predicted US emissions in 2020. China is without doubt, and will continue to be a major contributor to the climate change problem.

Figure 2: Absolute Carbon Emissions versus Carbon Intensity in China, 1980–1996



Source: Baumert et al. 1999: 4

3 Theoretical Take on China's Climate Change Policy-making

The purpose of this study is to understand China's foreign policy-making on global climate change. In order to explain why states adopt particular positions on particular foreign policy-issues it is necessary to find out what factors are affecting the policymaking, through what mechanisms and processes. This chapter will suggest an analytical framework that can be used to explain China's behavior in the international climate change regime. Three explanatory models are introduced that will inspire the selection of explanatory variables; the Unitary Rational Actor (URA) model, the Domestic Politics (DP) model, and the Social Learning and Ideas (SLI) model.¹⁹ Based on the assumptions of each of the three models I will make a set of hypotheses about the causal relationship between the suggested explanatory factors and China's climate policy. These hypotheses will guide both the search for empirical evidence (Chapter 5), and become the focal-point for the subsequent empirical analysis (Chapter 6). The explanatory factors suggested below will also be used as a point of departure for discussing future prospects of Chinese climate policy (Chapter 7). The present chapter will be structured as follows. First it will define foreign policy in general. Then the dependent variable of this study 'China's foreign policy on climate change' will be further clarified and operationalized. This will be followed by a presentation of the three explanatory models, their main assumptions and how they can be applied to explaining the dependent variable.

3.1 Defining and Clarifying the Dependent Variable: Aspects of Foreign Policy

The study of foreign policy is a sub-field of international relations studies which can be distinguished both from international and domestic politics. While the study of *foreign policy* focuses on ideas and actions of a particular state, *international politics* is about the interactions between states (Holsti 1995: 18f). The foreign policy of one country is in most cases influenced by foreign policy objectives and behavior of other states. Thus the distinction between foreign policy and international politics may be more theoretical than a reflection of the real world. However, for analytical purposes it is useful to distinguish the two concepts, because they provide two different perspectives for studying state behavior on the international arena (Fermann 2001: 195).

There is no generally accepted standard definition of 'foreign policy', or common agreement of what the concept should include. Does it only cover a state's actual behavior vis-à-vis its surrounding environment, or does it also cover goals and strategies? White (1989: 1) defines foreign policy as '...that area of governmental activity that is concerned with relationships between the state and other actors, particularly other states, in the international system'. This definition has its focus on state behavior, while Holsti (1995: 83) who defines foreign policy as the '...ideas or actions designed by policymakers to solve a problem or promote some change in the policies, attitudes or actions of another state or states' also includes the ideas or intentions behind the actions. In the following the

study of foreign policy is assumed to imply examination of (i) formulation of policy goals or positions, (ii) choice of tools and strategies employed by decision-makers in order to reach the given goals and, (iii) the actual foreign policy behavior of a state in a certain policy area.

The actual foreign policy behavior of a country will in many cases deviate from its foreign policy intentions, because of the ‘...external/systemic conditions and the nature of the domestic political context [which] constitute the environments in which policy purposes and actions are formulated’ (Holsti 1995: 285). Examples of external/systemic conditions can be the nature of the international system and its structure, the nature of the international economic system or influences from international norms and regimes. At the same time domestic conditions such as characteristics of the state, type of regime, characteristics of the civil society, organization of bureaucracy and domestic resource base will define opportunities and constraints for foreign policy goals and action. Foreign policy can also be explained as a result of personal factors and the decision-makers personal qualities. However, this study will not systematically examine the influence of personal factors.

The dependent variable, i.e. the phenomenon to be explained in this study is China’s foreign policy on climate change. I will distinguish between position and behavior as two elements of China’s climate foreign policy. The *position* is China’s declared policy position in the international climate change negotiations. Most aspects of China’s negotiating position as it is expressed in the negotiations are not possible to distinguish from the common position of ‘G77 and China’. Positions will be further divided into three policy dimensions.²⁰ The first policy dimension is willingness to accept commitments. A non-commitment approach implies that a country is unwilling to accept commitments of any kind. A minimum-commitment approach means accepting some commitments, but preferably with low costs. The more costs a country is willing to take the further the move along the spectrum of commitment. A maximum-commitment approach would thus imply willingness to major restructuring of the economy in order to reduce emissions.

The second dimension is *differentiation of commitments*. Positions on differentiation can vary between zero differentiation, meaning uniform commitments for all parties, or if a differentiated approach is advocated positions can vary according to a range of various patterns of differentiation. A third dimension is flexibility regarding the implementation of commitments and the use of the so-called *flexible mechanisms*. Flexibility mechanisms can for instance be international trade with emission quotas or other arrangements that allow parties to fulfill their commitments without necessarily doing all the reductions domestically, based on a principle of cost-effectiveness. The extreme values on this dimension are zero flexibility versus no constraints regarding the use of mechanisms (Underdal 1997: 12).

Foreign policy *behavior* in relation to climate change encompasses strategic behavior in the negotiations and follow-up behavior. I have chosen to focus on coalition-building and agenda-setting as two aspects of strategic behavior. Coalitions are typically used to increase the bargaining leverage

in negotiations. Efforts to influence agenda-setting imply that actors consciously try to influence which issues being discussed or equally important which issues are *not* being discussed. By follow-up behavior I mean China's international response to climate change or behavioral change as a consequence of being part of the regime (see Rosendal 1999: 14-16). Since the scope of this report is limited to China's foreign policy on climate change I will only focus on implementation at the international level, i.e. follow-up actions that are directly linked to China's response to the international negotiations. Implementation can be defined as 'activities that move in the right direction' (ibid.). Being a Party to the UNFCCC and the Kyoto Protocol only provides for two main processes of implementation, given China's developing country status: Periodic reporting and the Clean Development Mechanism (Chayes and Kim 1998: 515). The actual implementation of CDM projects belongs to the sphere of domestic implementation and will thus not be treated here.²¹

'Level proactiveness' describes the combination of positions and behavior and make it possible to indicate in which direction China's climate foreign policy is moving (see Bang 2005). Level of proactiveness signifies a country's contribution to solve the climate change problem through negotiating positions and behavior. Positions and behavior that actively seek to promote an agreement that contributes to reducing the impacts of climate change can be characterized as proactive. It must be stressed that in this context the level of proactiveness is mainly concerned with the *political* aspect of problem-solving with regards to climate change, not with solving the problem of climate change *per se*, since I am not studying policy implementation at the national level.

3.2 Explaining Climate Change Policymaking: Three Approaches

I have chosen to apply three explanatory models to inspire the formulation of hypotheses potentially capable of explaining foreign policy decision-making behavior. The assumption of actors behaving according to the principle of rationality is used as a starting point in all three models (Bang 2004: 17). However the models differ in the degree of rationality they assume. As a starting point one can expect that China's foreign policymakers are acting in a rational manner, participating in the negotiations to advance the nation's interests regarding both climate change and other issue-areas. The three models offer different answers to how national interests are formed and changed. The URA model sees interests as rational choices based on calculation of costs and benefits of the different policy alternatives, while the DP model explains the national interest as an aggregate of sub-national actors' interests, resulting from domestic bargaining and compromises. The DP-model theorizes on how the unitary national-interest is generated from several mind-sets, while the URA-model take the national interest for granted in an analysis focusing on rational means-end-relationships. The SLI model has a more dynamic view of rationality than the two former models, and assumes that national interests that evolve through learning processes and are influenced by norms.

As mentioned above, foreign policy behavior can not be explained by interests alone, as domestic and external environments ‘...offer both opportunities and constraints’ (Holsti 1995: 252) for policy-makers trying to promote and defend their interests.²² Thus it can also be expected that China’s actions will be determined by both the domestic and the international context. The opportunities and constraints offered by these contexts will also be treated within the framework of the three models. The URA model has a strong focus on the agents and their interests, but also considers the context in which national actors operate, in particular international structures and the interdependency between states (Bang 2004: 18). In the DP model, constraints are mainly found in the domestic context, namely in characteristics of the regime and the bureaucracy. However, sub-national actors will also be influenced by international factors like the diffusion of knowledge and international norms, which is the focal point of the SLI model. The three models thereby can be said to interact and compliment each other in their explanations.

The three models also differ in their ability to explain and predict policy outcomes. The strict rationality assumption and the parsimony of the URA model make it relatively easier to make predictions about causal relationships (whether these predictions are right or not is a different question...). The DP model is more complex in its assumptions and thus makes it harder to derive precise predictions. The SLI offers the vaguest assumptions and is not as suited as the other models to make hypotheses that can be confirmed empirically. Processes of learning and the formation of beliefs are most likely more indeterminate than processes of choice (Underdal 1998: 23). However, the hypotheses based the SLI model supplements the explanations offered by the other two models and should therefore be included (Bang 2004).

3.2.1 The Unitary Rational Actor Model (URA)

The unitary rational actor model (URA) is a rationalist, interest-based explanatory approach to foreign policy decision-making.²³ The basic assumptions of the URA model are that states are acting as unitary, rational actors, where decision-makers evaluate their options in terms of costs and benefits to the nation, and choose the option which (is believed to) maximize national gains. It is also assumed that states are in full control of their societies (Underdal 1998: 7). The URA model can be criticized for giving an over-simplified picture of reality. No one will however argue that it gives a true description of the world. Its advantages lie in its parsimony, precision and rigor (Underdal 1998: 8).

The URA model assumes that a rational actor has a set of specified and prioritized goals and objectives, a set of perceived options and ‘a single estimate of the consequences that follow from each alternative’ (Allison 1971: 32f). The choice of policy will be based on estimates of the consequences of each available alternative, always with the overriding goal of national utility maximizing. This requires a comprehensive calculation of costs and benefits for each possible option, given national goals and objectives. According to the rational actor approach, foreign policy behavior is a response to a strategic problem facing the nation. The nation will be moved to act by threats and opportunities arising in the interna-

tional strategic ‘marketplace’ (Allison 1971: 33). When the URA model is applied to a case it is assumed that it is in fact possible to calculate the costs and benefits no matter how complex the reality is. Ideally, this requires access to all necessary information about the issue area, the preferences of the other actors and possible solutions (Johansen 2002: 31). In practice, decision-makers and researchers alike have to opt for a much more parsimonious approach.

In order to apply the URA model to China’s climate change behavior it is necessary to identify the goals, the policy options and the perceived consequences following each of the alternative policy options. Hans Morgenthau suggested that one useful starting point could be to

...put ourselves in the position of the statesman who must meet a certain problem of foreign policy under certain circumstances, and we ask ourselves what the rational alternatives are from which a statesman may choose who must meet this problem under these circumstances (*presuming always that he acts in a rational manner*), and which of these rational alternatives this particular statesman, acting under these circumstances, is likely to choose (Morgenthau quoted in Allison 1971: 26).

Assuming that the state act as a unitary actor implies that policy-makers share one mind-set of which values are to be maximized when meeting a specific foreign policy problem (Lieberthal and Oksenberg 2001:11). The ‘problem of foreign policy’ is in this case the threat of climate change which can lead to a range of undesirable consequences for China. The potential costs of these consequences as well as expectations and pressure from the global community make it absolutely necessary to respond to it in some way or another. Here, national interests will first be narrowly defined in economic terms considering two different aspects of economic interests at stake in relation to global warming; vulnerability to the consequences of climate change and the costs and benefits associated to emission reduction activities. Secondly, I will consider the international circumstances in which the Chinese policy-making takes place and focus on the external influences on climate policy decision-making. Here, I will focus on costs and benefits calculation related to participating in climate change cooperation and how external factors like side-payments, issue-linkages and concern for international image can provide incentives for changing behavior (e.g. Johnston 1998).

3.2.1.1 Vulnerability and Abatement Costs

Sprinz and Vaahtoranta (1994) focuses on vulnerability and abatement costs as the most important factors explaining why countries adopt different positions in international environmental cooperation (see also Rowlands 1995). Following the assumptions of the URA model the rational choice is the alternative that maximizes national benefits. Thus a country has to assess the expected negative impacts of an environmental problem like climate change against the costs of contributing to the solution of the problem. In the long term the most beneficial solution for every country is of course that negative consequences of climate change are prevented, but rational actors will weigh this benefit against the consequences of mitigating emissions for national welfare.²⁴ The expected

damage costs depend on a country's vulnerability to the consequences of climate change. Moreover, adaptation to the consequences of climate change has become an increasingly important issue as the impacts of climate change are already evident. The ability to adapt will often be closely related to the country's economic resources; hence developing countries will probably have less capacity to adapt to climate change. The higher the costs of adaptation, and the lower the capacity to adapt, the more vulnerable the country is to climate change impacts.

The URA model assumes full information is available to decision-makers about the consequences of their policy choices, however, in a field like climate change this information changes over time. Climate change is an extremely complex issue-area characterized by scientific uncertainty and research on climate change is a field in constant development.²⁵ The URA model regards interests and preferences as exogenously given, but not unchangeable. Preferences can change when new scientific knowledge about for instance the vulnerability of a country alters the cost-benefit calculus, because the overall objective is still to maximize national gains (Sprinz and Weiss 2001; Johnston 1998). (I will return to this point under the SLI model). Since full information about the climate problem is out of reach, in real life policy-making it is the policy-makers *perceptions* of costs and benefits at the time being that determine what policy choice is seen as optimal.

In China's case, abatement costs are first and foremost connected to what consequences limiting GHG-emissions will have for further economic development. The bulk of China's emissions are energy-related, costs of abatement will thus be dependent on prospected energy demands and potential for fuel substitution (Rowlands 1995). Moreover they will be determined by the availability of alternative energy sources, and maybe more important as we are dealing with a developing country, institutional, technological and financial capacity to develop and utilize alternative energy sources. As climate policy is characterized by scientific uncertainty, the URA model predicts that the preferred policy alternatives will be of a 'no-regret'-character, meaning that 'proposed policy measures would be equally profitable also if negative climate change effects do not emerge' (Søfting 2000: 14). Abatement efforts do not necessarily imply only negative costs, seeing as mitigating GHG gases can have positive side-effects and result in benefits like better air quality, improved energy efficiency, and better energy security. Efforts to reduce GHG-emissions can thus benefit economic development (e.g. Buen 1998). Calculation of abatement costs should accordingly take benefits of reducing emissions into consideration.

3.2.1.2 External Forces of Influence: Issue-linkages, Side-payments and Image

Damage costs and net costs of reducing GHG-emissions are mainly determined by 'objective' characteristics of the country like geographical conditions, energy structure and GHG-emissions. The URA model also takes into consideration how policy-makers' choices on whether to participate and the degree and content of participation can be determined by external conditions like the country's relationship to other countries, and interna-

tional political and economical structures (Søfting 2000: 12). China's relationship to the international environment has changed radically during the last two decades, after the launch of the economic reforms in 1978 and the introduction of the 'open-door-policy'. In the beginning of the 1970s China, in the midst of the Cultural Revolution, was in a state of isolation in world affairs and among the poorest countries in the world. The Chinese leaders led a policy of extreme self-reliance and foreign trade accounted for less than 5% of the GDP (Oksenberg and Economy 1999: 5).²⁶ This picture has changed dramatically. China has now ... 'rejoined the world. No significant aspect of world affairs is exempt from its influence' (Oksenberg and Economy 1999: 5). China's entry into the World Trade Organization (WTO) in 2001 can be regarded as a final proof of China's new status in world affairs and integration in the world economy.

The problem of global climate change has typical features of a collective action problem; cooperation is necessary in order to solve the problem and if climate change is prevented or limited, everyone can enjoy the benefits. The place of emission is insignificant as well as the place of mitigation, it is only the total amount of emissions that matters. Consequently states have no incentive for acting unilaterally to prevent climate change and the most rational choice for every country will be to let others reduce their emissions and only reap the benefits of a healthy climate, in other words 'free-riding'. However, interdependency between states has become an increasingly important feature of international relations during the last 50 years due to international trade, membership in international organizations and a the need for international cooperation to solve trans-boundary problems. In an international system characterized by interdependency, policy-makers will also consider other costs and benefits when choosing whether to engage in international cooperation, besides the costs and benefits directly related to addressing the problem in question. China's increasing interdependency with the surrounding world on all issue-areas is thus expected to affect foreign policy choices.

The costs of choosing a non-commitment approach in international cooperation can for instance come in the form of sanctions, lost prestige or damage to a country's international image and the possibility that other states will link failure to comply with the climate change regime to retribution on other issue-areas (Underdal 1998). As the first commitment period of the Kyoto Protocol will start in 2008, there are no formal sanctions for non-compliance at the time being. However, uncooperative behavior does not pass unnoticed. When the US decided to withdraw from the Kyoto process in 2001, it caused loud protests from a range of state leaders world-wide. The EU warned the US that its attitude towards climate change cooperation could harm the Euro-American relationship (Johansen 2001: 51). Issue-linkages to other areas of international cooperation created by other actors are another way if exerting pressure on states to change their behavior. One of the reasons why Russia decided to finally ratify the Kyoto Protocol was probably the EU's success in linking Russian ratification to its support for Russian membership in the WTO (Baker 2004).

The negotiation process leading up to the Montreal Protocol on Substances that Deplete the Ozone Layer can illustrate how other costs and benefits than those directly related to the problem itself can influence decision-making. One of the key factors that can explain the success of including the large developing countries like China and India in the agreement was the establishment of a multilateral fund and the possibilities for these countries to get access to financial and technical assistance (see Zhao and Ortolano 2003; Economy 2001). As pointed out by Vogel: '...one way of promoting effective international environmental action is for the more affluent countries not only to change their own policies but also to provide less affluent countries with sufficient incentives to modify theirs as well' (Vogel in Sprinz and Vaahtoranta 2002: 3). Consequently one can expect that the possibility of getting access to technical and economic assistance can change preferences and behavior, especially if the side-payments are conditional in a way that requires action to reduce emissions in return for funding. In that way policy change in direction of taking commitments can be seen as a way of promoting the goal of economic development for developing countries.

The example of the Montreal Protocol also points out other factors that influenced China's behavior such as to display concern about the ozone layer and to promote China as a cooperative player in the international arena. Furthermore China was motivated by the interest of retaining a leading voice in the developing world (Zhao and Ortolano 2003: 710-711). All these factors are related to status and international image, which also can be important driving forces for behavior on the international scene. Thus, interests can change dramatically also when there is no shift in the economic calculations due to concerns regarding non-monetized commodities like leadership, image and status (Rowlands 1995: 247). Rising costs or declining benefits of non-commitment due to side-payments or image concerns can lead to a tactical shift along the spectrum of commitment (Johnston 1998: 584).

The influence of image concerns should generally be expected to lead to a more proactive position, seeing as China tends to be very sensitive to criticism. One can at least assume that China will minimize negative image costs when choosing between policy alternatives. Image costs will vary as a function of the '...size and nature of the 'audience' in which China places value' (Johnston 1998:559). Johnston points out an interesting relation between image concerns and the above-mentioned transfer of funding and technology. There may be a growing resistance by others to transferring technology to a perceived free-rider. The more aid and technology a country receives, the more attention is likely to be paid to its compliance and commitments. Hence image costs and benefits become more salient (Johnston 1998: 584).

This discussion suggests that climate change policy may be influenced by several external influences and exogenously given driving forces; policies of other states (unilaterally or multilaterally through the regime), sanctions, threats, side-payments, issue-linkages and concern for image and status. A systematical examination of the external forces of influence on China's climate policy is too comprehensive to be examined systematically within the context of this report. Thus I have chosen to focus on the

influence of additional benefits of participation (prospects for funding) and international image concerns on China's approach to international cooperation on climate change. The influence of external factors will be exemplified by China's relationship to other key actors such as the US, the EU and the developing country group (G77). Based on the assumptions of the URA model, I will suggest four hypotheses. The first two focus on national interests in economic terms, while three and four focus on the influence of international structures.

H₁: If the damage costs of climate change impacts are expected to be high, the likelihood of a proactive Chinese climate policy is enhanced.

H₂: If net abatement costs are expected to be high the likelihood of a proactive Chinese climate policy is reduced.

H₃: Possibilities for funding and transfers of technology that reduces the net costs of commitments increase the likelihood of a more proactive Chinese climate policy.

H₄: China will minimize image costs when choosing between different climate policy options. The greater the image costs of low-commitment, the more likely is it that China will take a more proactive approach.

3.2.2 *The Domestic Politics Model (DP)*

The URA model sees states as unitary actors and explains their behavior in terms of rational choices between different policy alternatives based on the principle of value maximizing. One of the URA model's limitations is that it fails to acknowledge that negotiations and bargaining take place at 'more than one level, at the same time, and among a variety of actors' (Economy 1994: 29). While the URA model focuses on the interests of the state, the Domestic Politics (DP) model shifts the focus to the role of interests *within* the state and thus on the struggle between different interest groups in deciding what the collective interest of the state shall be. National interests can not simply be inferred from information about costs and benefits facing a nation, they must rather be understood as the *outcome* of domestic politics processes.²⁷ Hence, the DP model sees the state not as one unitary actor but rather as many actors 'who focus not on a single strategic issue but on many diverse intra-national problems as well' (Allison 1971: 144).

The DP model also assumes state behavior to be a result of the choices of rational actors, but whereas the URA model assumes states to be *unitary* actors the DP model regard them as complex organizations '...where policies are formed through a series of policy games over which no single actor has full control' (Underdal 1998: 12). Through political bargaining the different sub-actors involved will try to promote their 'multiple and to some extent conflicting objectives' (ibid.). The result of this bargaining process will among other factors be decided by the distribution of power and the degree of influence of the domestic actors (Bang 2000). In general the DP model provides a more complex picture of the decision-making process than the URA model.²⁸

Barkdull and Harris (2002) make a distinction between societal and state-centric explanations of environmental foreign policy. The former explanations focus on the influence of societal factors such as interest groups, NGOs and business interests, while the state-centric explanations attempt to uncover how the different opinions within the state apparatus are aggregated into a foreign policy position. In my opinion the latter is the most applicable in the case of China seeing as the societal influences on the policy-making process is rather limited or at least substantially different from what is the case in the Western world. Business interests and influences are often used to explain positions in environmental cooperation. For example the strong interests of the US oil industry are often used as one explanation of the lack proactiveness in American climate policy (e.g. Bang et al. 2005: 17ff). In the case of China however, business interests are not separated from the interests of the state in the same way as in many Western countries.²⁹

The Domestic Politics model explains how domestic politics affect the foreign policy on a certain issue, or in this specific case how domestic political processes and bureaucratic bargaining affect China's foreign policy on climate change. Decisions on China's climate policy are not taken in isolation from other policy issues. Emissions of gases that cause climate change are side-effects of other activities like for instance energy supply, industrial production, transportation and agriculture. Thus, policy decisions to reduce emission will most likely have great consequences for the different sectors or segments of society that are affected (Underdal 1998: 15). Different climate policy options conflict with China's policy goals both on domestic level and international level. China's leadership is facing a situation where the challenge is to combine China's policy goals with demands and expectations from the surrounding world. Social stability and the legitimacy of China's leaders are dependent on the continuation of economic growth (Economy 2001). To maximize domestic political support for China's climate policy, it is crucial that it does not conflict with these overall goals.

To employ the DP model, it is important to identify the relevant domestic actors, or what Allison refers to as 'the players in the game'. In China's climate change politics a great number of different bureaucratic units are involved, but the most important decisions are taken only by a few key actors.³⁰ The various bureaucratic agencies have competitive interests and priorities shaped by their positions and roles, or as Allison pointed out: 'where you stand depends on where you sit' (Allison 1971: 176). The interests that these players bring to the game are assumed to be some 'combination of national interests (as he interprets them), organizational interests, and personal interests – the first of these not necessarily being the most important' (Underdal 1984: 70). Thus the outcome of the domestic bargaining process will not necessarily be what is in the interests of 'the nation' as a whole. It might as well reflect the different bureaucratic units' attempts of promoting organizational interests such as increasing budgets or expanding influence.

A full analysis of China's climate change policy according to the DP model would require comprehensive information about all relevant players (agencies and actors), their preferences, their priority of the climate

problem compared to other issue areas, their perceptions of the problem and its costs and benefits, and the distribution of power among the actors involved. This involves extensive mapping of the different bureaucratic and sector interests vis-à-vis climate change in China. As Allison remarks, one of the problems with this model is to collect reliable information about ‘the details of difference in perceptions and priorities within a government on a particular issue’ (1971: 181). This kind of intergovernmental bargaining is rarely documented and ideally one needs to have access to the participants themselves for interviews before their memories fade or become discolored (ibid.).

Due to limited time, space, resources and language abilities the present study will be limited only to the most central actors in Chinese climate change policy-making: The National Development and Reform Commission (NDRC), Ministry of Foreign Affairs (MOFA), China Meteorological Administration (CMA), Ministry of Science and Technology and the State Environmental Protection Administration (SEPA). SEPA’s influence has however been more limited than the first four, something that will be elucidated later (see section 5.2). These actors are all engaged in China’s climate change policy-making as well as in other policy-areas such as energy planning, economic development and China’s foreign policy in other fields. According to the DP model the Chinese governmental behavior within the field of climate change can be seen as a function of leading actors’ priorities and preferences on the area of climate change as well as other related areas, like economic development, industrialization, energy security and sovereignty. Furthermore it is expected that these actors will endorse a proactive climate policy choice only to the extent that it does not conflict that particular sector’s other goals with higher priority. Thus the following hypothesis about domestic politics’ influence on foreign policy based will guide the further inquiry:

H₅: If a proactive climate behavior is in conflict with the most influential bureaucratic actors’ interests regarding climate change and other functionally related policy areas, the chances of China moving in the direction of a more proactive climate policy are reduced.

3.2.3 The Social Learning and Ideas Model (SLI)

While the other two models are built mainly on rationalist assumptions, the Social Learning and Ideas model (SLI) also brings in elements from cognitive and constructivist theory, thus providing different assumptions about the nature of the policy-making process (Underdal 1998: 20). This model is less developed in the literature than the previous two, but it compliments and interacts with the other models by focusing on the role of knowledge, social learning and diffusion of ideas and beliefs. Constructivism views the relation between agents (states) and their structural environment as an interactive process, where preferences are formulated and through which interests emerge (Checkel 1998).

The SLI model as it is portrayed here can not be seen as a purely constructivist approach, but rather a rationalist approach that brings in some constructivist elements. The basic assumption in the SLI model is that

decision-makers enter political processes with imperfect information and tentative preferences. Thus, policy choices will evolve through a learning process, where the decision-makers' knowledge and perceptions of the problem are adjusted (Underdal 1998: 21). The SLI model furthermore suggests that one can expect a change in actor identity over time through learning and the diffusion of norms leading to a change in preferences and interests (Søfting 2000: 24).

The *negotiation process* itself is a focal point in the SLI model as it understood as a process of learning and an arena for policy diffusion (Underdal 1998: 22). The assumptions of this model imply that progress can be made within a problem area even without a formal agreement, because the negotiating process itself can contribute to changing the actors' perceptions of the problem and the way it should be handled.³¹ Policies evolve through learning, adoption of new knowledge and ideas and the formation of beliefs (Underdal 1998: 21).

The process of learning is difficult to trace empirically, and the actual influence of norms on actor behavior in the climate change regime may also be difficult to measure. When examining the impact of learning on China's climate policy it will be important to distinguish 'learning in which beliefs and values change along with policies from simple tactical learning, in which policy changes but beliefs remain the same' (Economy 2001: 240), or what Johnston terms 'learning versus adaptation' (1998: 583ff). *Learning*, which is the focal point of the SLI model, refers to the process where internalized values change, preferences over outcomes change and consequently policy changes. *Adaptation* refers to changes in policy that result from exogenous constraints closing off preferred options. Exogenous constraints may be rising or declining costs of non-cooperation, such as side-payments or image concerns (as was pointed out above under the URA model) (ibid.). Learning may result for instance from new externally generated information about climate change impacts and its economic effects which are injected into the policy-making process. Another factor that can contribute to learning is changes in the policy process that bring in 'people and groups that have already internalized alternative, more global or biocentric values' (ibid.).

Knowledge about environmental problems and beliefs about causal relationships shape policymakers' ideas on how problems should be handled. This leads us to expect that '...increasing understanding of the regional and local effects of climate change logically influence governments' attitudes towards this problem, with the likelihood that improved understanding of adverse impacts will increase their willingness to do something about the problem' (Harris 2003: 27). In regimes addressing environmental issues knowledge and so-called epistemic communities, or trans-national expert groups, often play a central role because research and scientific knowledge is crucial for policymakers to evaluate different policy options. Epistemic communities are 'networks of knowledge-based communities with an authoritative claim to policy-relevant knowledge within their domain of expertise' (Haas 1993:179).

The Intergovernmental Panel on Climate Change's (IPCC) role as epistemic community has contributed to the diffusion of knowledge about

climate change. In some countries the Assessment Reports of the IPCC has functioned as a basis of legitimacy of research results (Søfting 2000: 22).³² Some developing countries, on the contrary, have perceived the IPCC as representing Western science promoting Western interests. This is due to among other things the under-representation of experts from developing countries in the Panel (Sprinz and Weiss 2001).³³ Hence, the potential influence of IPCC on China's climate behavior will be dependent on China's perception of the epistemic community; if it is understood as a global or a Western-dominated institution. This leads to the other focal point of the SLI model, which deals with international norms and climate change.

Policy is not only evolving through the introduction of new knowledge, but also as a consequence of diffusion of social norms. The actual influence of norms on actor behavior in the climate change regime may also be difficult to measure, because it is difficult to say whether norms are used as rhetoric or actually are a part of the underlying values of a country's climate policy (Underdal 1998: 21). Norms do not only influence behavior, but are collective understandings that constitute actor identity by shaping the state's self-perception and the way it defines and pursues its interests. Policies are maintained as social norms and become incorporated in the actor's identity (Johansen 2002: 90; Søfting 2000: 22). Some of the norms that are well-known from the climate discourse are 'the precautionary principle', and the principle of 'common, but differentiated responsibilities', which has become one of the key principles in the climate change regime.

The principle of equity,³⁴ which is closely related to the interpretation of 'common, but differentiated responsibilities', has also played an important role. In this context, the concept of equity or does not refer to legal justice, but to distributive justice or fair burden-sharing. No-one would of course argue that the distribution of commitments should be unjust or inequitable; the dispute rather lies in how these terms are understood and operationalized (Harris 2003: 28).

There are differences in the interpretation of 'equity', especially between those of the North and South perspectives are substantial (Richards 2003). Ashton and Wang (2003: 67) points out four separate, but connected domains where equity has implications for cooperation on climate change. First, equity concerns are related to what obligations a state should have to reduce emissions of greenhouse gases. Second, the consequences of climate change and the need to deal with them also raise equity concerns. The third domain is equity and resource transfers. The fourth concerns the equity aspects of the negotiation process itself. Seemingly, the equity question highlights the North-South tensions that have been characterizing the climate change negotiations.

...concerns about international justice, particularly on the part of developing countries, cannot be avoided if all countries are to cooperate to tackle international environmental problems, particularly climate change. Developing countries will be less willing (and less able) to address climate change if they believe that they are not being treated fairly in the context of the global climate change regime – despite the increasingly clear dangers they face from the problem (Harris 2003: 27).

Consequently it could be expected that China as a developing country would be more receptive to an agreement, or parts of an agreement that are considered fair and just. Based on the assumptions of the SLI model I will put forward two hypotheses to guide the further inquiry:

H₆: Learning leading to increased understanding of adverse impacts of climate change is likely to influence China's attitudes towards this problem, with the likelihood of a more proactive climate policy.

H₇: An agreement on climate change cooperation (or the parts of such an agreement) which is in accordance with the Chinese notion of equity is likely to increase the possibility of a more proactive Chinese climate policy.

3.3 Summary

The three models outlined above provide three different approaches to explaining China's climate change policy. Based on the URA model one can expect that policy-making on climate change is influenced by expected damage costs related to climate change impacts on one side and the costs of taking actions to reduce GHG-emissions on the other. Furthermore, the URA model also focus on the costs and benefits related to engaging in cooperation such as the possibility to further economic goals through obtaining economic side-payments or to achieve intangible benefits like a favorable international image. This reflects that climate change represent a dual challenge for the Chinese leadership. On one side the government has to evaluate the costs of taking action versus the costs of non-action related directly to the climate change problem. Simultaneously, it has to consider costs and benefits of engaging in climate change cooperation. When trying to maximize economic gains, the impacts of its choices in terms of costs and benefits to non-monetized values such as image also have to be taken into consideration.

According to the DP model the state can not be considered a unitary actor. The DP model focuses on domestic sub-actors with diverging perceptions both of which choices that are maximizing national benefits and which values that are to be maximized. Following the assumptions of the DP model, what appears to be a common national interest expressed through China's position in the climate change negotiations, is more likely to be the interests of the most influential actor in the domestic policy struggle.

The SLI model does not have any specific assumptions regarding to the unity of the actor. It rather focuses on how interests are tentative and can change through learning. I have chosen to also focus on norms as a part of this model, more specifically on international justice or equity. Perceptions of equity are likely to influence the actor's perceptions of how climate change should be addressed. Norms also shape actors' identities and thereby legitimize their behavior on the international arena.

4 China's Climate Change Policy 1988-2004

This chapter maps China's behavior in the climate change negotiations from the late 1980s when climate change problem emerged as a major topic on the international political agenda until today. It will focus on China's position on key issues and its strategies. The main focus of this chapter is on the foreign policy aspects of China's climate change policy. Some domestic follow-ups to the international process are included as well, but only to the extent that they can elucidate developments in China's international climate behavior.

Harris and Yu (2005: 52) identify three distinct stages in China's official participation in the climate negotiations. The first from 1990 to mid 1992, the second from 1992 to late 1997 and the third from 1997 until today, which also corresponds with the most important developments in the climate regime; the Framework Convention on Climate Change adopted in 1992 and the Kyoto Protocol adopted in 1997. The presentation below will follow the three stages, except that the period between 1988 and 1990 will be included in the first stage. Following the chronological presentation of China's participation in the negotiations, key issues as well as continuities and changes will be identified in an attempt to characterize China's positions on different issue-areas across the phases.

4.1 First Stage (1988-1992): Climate Change Enters China's Political Agenda

In the late 1980s, climate change developed into an important international issue attracting increasing attention from the public, media, scientists and policymakers around the world (Chayes and Kim 1998: 507). As soon as climate change became a major issue on the international political agenda, China responded by initiating the coordination of its own climate policy. In 1988, an inter-agency group was established by the Environmental Protection Commission with approval from the State Council. When the negotiations moved towards a more formal phase the climate change policy coordination structure was expanded and a National Climate Change Coordination Group was established to facilitate the work of formulating China's positions for the upcoming international climate negotiations (Chayes and Kim 1998: 514; Tangen et al. 2001: 238). The group involved four different bureaucracies, the State Science and Technology Commission (SSTC), the National Environmental Protection Agency (NEPA), the State Meteorological Administration (SMA) and the Ministry of Foreign Affairs (MOFA) (Economy 1994: 148f). SMA was in charge of scientific assessment and acting as the lead agency, SSTC was responsible for response strategies while NEPA was in charge of impact assessment. MOFAs responsibility was to lead the Chinese delegation to the negotiations (Hatch 2003: 49).

China was from the beginning actively participating in the international climate negotiations. When the Intergovernmental Negotiating Committee (INC) initiated its work on drafting an effective convention on climate change in 1991, two issues emerged as especially critical in order to successfully create a convention. First, whether a convention should give

specific targets and timetables for emission reductions, and second, to what degree and extent the developing countries should participate (Economy 1994: 18-19). During the INC negotiations, the Chinese delegation strongly opposed the idea of targets and timetables and supported a general framework convention with no specific responsibilities for the parties. China also succeeded to establish a unified developing country front in order to resist any claims of developing country commitments from the industrialized countries. From the very beginning of the climate negotiations China gained a reputation as a 'hard-liner' (Economy 1994: 137). Together, the developing countries emphasized the historical responsibility of developed countries for climate change, and agreed to participate in the climate negotiations only on the condition that they should not be required to take any substantial commitments of their own (Harris 2003: 27).

The core elements of China's initial negotiation position included an emphasis on the major scientific uncertainties concerning climate change; focus on the protection of national sovereignty with an emphasis on developing countries' right and need to develop and thus not be committed to take on measures in conflict with development or conditional aid; the historical responsibility of industrial countries; and transfer of new and additional funding and technologies to developing countries (Hatch 2003: 50). China together with the other developing countries actually managed to influence the structure of the Convention in several areas, something which is especially evident in Article 3 on general principles to guide the parties in their action to achieve the objective of the Convention (ibid: 51; Chayes and Kim 1998: 509).³⁵ Article 3.1 calls on the Parties to protect the climate system 'on the basis of equity and in accordance with their *common but differentiated responsibilities* and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof' (FCCC 1992: Art. 3.1, emphasis added). The principle of 'common but differentiated responsibilities' was vigorously espoused by China in the INC debates and has remained a key principle in Chinese climate policy (Chayes and Kim 1998: 510).

Although the developing countries ('G77 and China') repeatedly advocated differentiated obligations for industrialized and developing countries, they strongly opposed any differentiation among developing countries based on their different levels of development. (Chayes and Kim 1998: 525). The strong resistance of creating a category of more advanced developing countries matched very well with Chinese interests. China with its rapidly expanding economy, large present emissions and even higher projected emission levels could easily be singled out in such a category (ibid.).

4.2 Second Stage (1992-1997): From Rio to Kyoto

China signed the Climate Convention in June 1992 and ratified it in 1994 as the fifth country in the world. Six more INC meetings were held between Rio and the first Conference of the Parties (COP-1) preparing for the Convention's entry into force. The most central issue discussed at COP-1 was the adequacy of the commitments of the Convention³⁶ includ-

ing the proposal of a follow-up protocol. On the issue of adequacy of commitments, China together with G77 stressed that implementation of the existing commitments should be the COP's main concern. The Chinese delegation was skeptical of the proposal of a protocol to follow up the Convention, and expressed that it was not interested in negotiating a protocol before the Annex I Parties had implemented all their commitments in accordance with the Convention (ENB 1995: 4).

The breakthrough in the negotiations on adequacy of commitments came when a group of key developing countries including lead by India, but also including China decided to support a statement by the Alliance of Small Island States (AOSIS) declaring the current commitments inadequate and called for industrialized countries to address the problem. By doing this the 'G77 and China' indicated a general recognition of the need to address climate change (ENB 1997b: 15). Consequently COP-1 (shaped by this) adopted the Berlin Mandate to begin a process to negotiate a follow-up protocol to the Convention containing more specific obligations and established the Ad Hoc Group on the Berlin Mandate (AGBM) to begin this work (Chayes and Kim 1998: 506).³⁷ The condition for supporting the AOSIS proposal and thereby agree to the need for a Protocol '...was a very definite refusal to accept any new commitments for developing countries in the next round of negotiations, i.e., the AGBM' (ENB 1997b: 15). The deal also included an agreement by the US and Australia to drop their insistence that developing countries get involved in new commitments (ibid.). Despite what was promised in the Berlin Mandate, some developed countries and the US in particular continued to push for commitments for developing countries. At the eight and final session of the AGBM in Bonn, October 1997, US president Bill Clinton called for 'meaningful participation' from developing countries. In response 'G77 and China' used every opportunity to oppose attempts on to include developing countries into something that could be reduction commitments (ENB 1997b).

In addition to adequacy of commitments Joint Implementation (JI) or Activities Implemented Jointly (AIJ) was the other main topic for China in the second stage. Article 4.2 of the Convention states that Annex I countries have the possibility to implement policies and measures designed to limit emissions jointly (Chayes and Kim 1998: 520). China was skeptical when the idea of JI was introduced in 1992 at the seventh INC session. At INC-8 there were discussions about broadening JI to also include developing countries on a voluntary basis (Tangen et al. 2001: 240). Chinese negotiators viewed JI as an instrument created primarily to benefit developed countries helping them to avoid domestic actions. Moreover, JI was regarded with suspicion because it could be a means of introducing commitments for developing countries, shifting responsibility from Annex I to non-Annex I Parties (ibid.). JI was up for discussion both at COP-1 and COP-2 and China, together with the G77 expressed their skepticism fearing that the introduction of JI projects involving developing countries could be on the expense of financing and technology transfers stipulated in the FCCC (ENB 1996).

When the parties gathered in Kyoto for the third Conference of the Parties (COP-3), China's initial position was that developed countries by the

year 2000 should have reduced their emissions of CO₂, CH₄ and N₂O to 1990 levels. And then further by 7.5% by 2005, 15% by 2010 and 20% by 2020, summing up to a 35% total reduction by 2020. China's position was far more ambitious than that of the US which suggested stabilization by 2010, but in line with that of the EU, proposing a 15% reduction by 2015 (Tangen et al. 2001: 241). At COP-3, the 'G77 and China' contributed to pushing higher targets by supporting the EU's emission reduction position. In general the developing countries proved to be quite influential in Kyoto. The 'G77 and China' also succeeded in deleting an article on voluntary commitments for developing countries (ENB 1997a: 15).

The Kyoto Protocol also included three 'flexible mechanisms', the Clean Development Mechanism (Article 12), Joint Implementation between Annex I Parties (Article 6) and emission trading (Article 17). In general China was skeptical to the introduction of the so-called Kyoto mechanisms (Tangen et al. 2001: 241). China and other developing countries objected to Article 17 on emission trading, stating that it would not reduce emissions, and proposed to delete it from the Protocol (ENB 1997a: 11). By doing this China (and India) ambushed the JUSCANZ countries³⁸ and succeeded 'in delaying the pace at which trading will come into effect' (ENB 1997a: 15).

In Kyoto, New Zealand made a proposal saying that developing country Parties should assure that they would be willing to take on binding commitments after the first commitment period, if Annex I Parties succeeded in fulfilling their commitments. The 'G77 and China' answer was negative, this was not the time to address developing country commitments, and focus should continue to remain on strengthening developed country commitments. According to 'G77 and China' the key to success was common, but differentiated responsibilities; developing countries have low capita emissions and must therefore prioritize economic and social development. The concluding answer to the New Zealand proposal was finally stated in one single word: 'no' (ENB 1997a: 13). In general the relations between developed and developing countries have been characterized by distrust and hostility as soon as the issue of developing country commitments has been brought up, as illustrated here.

4.3 Third Stage (1997-): Post-Kyoto Positions

While the main features on how to go on with the cooperation to combat climate change were agreed upon with the adoption of the Kyoto Protocol, the negotiations in the post-Kyoto period have evolved around how to make the Protocol ready to enter into force and its rules of procedure. To a large degree this has been a matter of how to make the agreement acceptable for certain developed countries and thereby secure their ratification (Najam et al. 2003: 222).³⁹ The main issues in Chinese climate diplomacy during its third stage have been how to uphold the avoidance of developing country commitments and how to relate to the Kyoto Mechanisms, especially the CDM (Harris and Yu 2005: 53).

Despite the developing countries' successful effort to remove the proposed article on voluntary commitments for non-Annex I countries from the Protocol, the issue was brought up once again by the US at COP-4 in

Buenos Aires. China and India (and other developing countries) recalled that the debate at Kyoto had rejected the idea of voluntary commitments, because it was an idea not implied in the principle of 'common but differentiated responsibilities'. According to the Chinese delegation, voluntary commitments would not promote the FCCC and was just a way to avoid existing commitments by some Parties (ENB 1998). The idea of voluntary commitments for developing countries also raised the concern that developing countries risked losing financial assistance and technology transfer as stipulated in the Convention if they agreed to take on commitments voluntarily. China moreover expressed concern that voluntary commitments would create a new category of Parties under the FCCC and destroy the unity of 'G77 and China' (ENB 1998: 3).

Furthermore, the Chinese negotiators remarked that developed country emissions were projected to be 5% above 1990 levels by 2000, and 13% above 1990 levels by 2010. Consequently developing countries' 'survival emissions' should be distinguished from developed countries' 'luxury emissions'. Rather than forcing developing countries to 'remove food from people's tables', developed countries should change patterns of production and consumption (Heggelund 2005).

At the fifth Conference of the Parties (COP-5 in Bonn) the tone of the Chinese negotiators was less aggressive than in Kyoto (Zhang 2003: 69). Liu Jiang, the head of the Chinese delegation underscored that 'it is impossible for the Chinese government to undertake any obligation of greenhouse gas emission reduction before China attains the level of a medium-developed country' (Liu cited in Zhang 2003: 69). However, Liu furthermore stated that 'China will continue striving to abate the growth of greenhouse gas emissions in line with her own sustainable development strategy, and will continue actively promoting and participating in international cooperation' (ibid.).

One of the most important developments in the third period of China's climate change diplomacy is the changing attitude towards the flexible mechanisms. As already mentioned China was initially critical to proposals of Joint Implementation involving developing countries, including the Clean Development Mechanism when it was proposed as a part of the Kyoto Protocol. However, at COP-5 in Bonn in 1999 China did not raise its usual objections to the flexibility mechanisms when they were up for discussions (Zhang 2003: 69).

After this meeting China also began to take a more active part in discussions on rules and procedures guiding the practical implementation of CDM projects. In China's view all technologies should be allowed under the CDM, including nuclear energy projects, with the exception of sink activities. China argued against the inclusion of sinks based on the difficulties in ensuring that the resulting reductions from sink projects were of a permanent character (Tangen et al. 2001: 242). It is reasonable to assume that this position was rooted in China's interest in maximizing its share of CDM projects. The Latin American countries would probably be the main beneficiaries of sink projects, while China is one of a few developing countries with an active nuclear program (ibid.). At COP-6 China even spoke in favorable terms of the Kyoto Mechanisms, and

called the CDM a 'win-win' mechanism benefiting both developed and developing countries. At COP-7 in Marrakech, China furthermore explicitly supported the Kyoto mechanisms and even called for accelerating the launching of the CDM (Zhang 2003: 69). By ratifying the Kyoto Protocol in 2002 China became eligible to CDM projects. China's position regarding the CDM developed from initial skepticism to a more pragmatic focus on maximizing benefits that might result from China's participation in such projects (Tangen et al. 2001).

At COP-7 in Marrakech the EU together with 'G77 and China' were eager to negotiate an agreement that could ensure an entry into force of the Kyoto Protocol, preferably before the Johannesburg Summit in September 2002. This resulted in the adoption of the Marrakech Accords to the Bonn Agreements which completed three years of negotiations on the operational details of the Kyoto Protocol (ENB 2001:15).

When the Parties gathered in New Delhi for COP-8, the division between developed and developing countries' positions was as usual evident. In the opening session the developing countries represented by 'G77 and China' expressed their disappointment at the low level of financial resources provided by Annex I Parties and stressed that action so far had been symbolic (ENB 2002: 3). Although not an explicit issue for negotiation the looming issue of future commitments strongly influenced the dialogue at COP-8 (Pew Center 2002). Emphasizing the need for continued economic development, China said that the climate regime should take into account the rising energy demands that will occur as the quality of life in developing countries improves (ENB 2002: 4).

Perhaps influenced by the host country India, the Delhi Ministerial Declaration on Climate Change and Sustainable Development, adopted at COP-8 reflected a strong developing country perspective, focusing on issues such as sustainable development, poverty eradication, adaptation and developed countries' implementation of their commitments under the Convention. Commitments beyond 2012 and the need for broadening participation were not mentioned, something that caused strong objections from the EU (Pew Center 2002). However, the developing countries' view perhaps unexpectedly gained support from the US, which earlier had called for more action from developing countries repeatedly. Instead of starting a dialogue about future mitigation commitments for developing countries, some of the more powerful developing countries wanted to focus on *adaptation*. Calling attention to the fact that technology transfer to developing countries has been ineffective, the 'G77 and China' called for additional assistance for both mitigation and adaptation (ENB 2002: 5).

At COP-9 in Milan the Parties remained deadlocked on the broader issues of how to continue the effort to prevent climate change, and progress was limited only to a few primarily technical issues such as rules for sink projects in the CDM. The COP was dominated by the uncertain fate of the Kyoto Protocol depending on Russian ratification (Pew Center 2003). The 'G77 and China' called on the Russian federation to ratify the Kyoto Protocol and for the US to come back in to the Kyoto process (ENB 2003). The Parties tried their best to avoid the rancorous debates that had

arisen at COP-8 when the EU and other developed countries had brought up the issue of steps beyond the first commitment period. Once again the developing countries expressed their frustration over the Annex I Parties' failures to fulfill their own commitments, their limited transfer of technologies and insufficient financial support. Based on this the '...developing countries held firmly to preventing negotiations turning towards mitigation activities by non-Annex I countries in the future' (ENB 2003: 17).

However, in a session on technology transfer China stated that the 'purpose of the discussion was to double the chances for developing countries to be more able and then more willing to participate in mitigation actions in the future' (Pew Center 2003). This comment was noted by many observers as a possible sign that some developing countries were moving towards becoming involved in discussions about future steps. China also said that 'once developed countries have taken the lead in mitigating emissions, developing countries would be able to make a contribution' (ENB 2003: 14).

The most recent round of climate change negotiations was COP-10 in Buenos Aires in December 2004. The Russian ratification created a certain optimism, after the uncertainty that had surrounded the fate of the Kyoto Protocol since the US withdrawal in 2001 (Pew Center 2004). The optimism soon faded away when the discussion on the post- Kyoto period started. An issue that was central in Buenos Aires was 'whether countries were prepared to create a space within the formal process to even begin considering the question of next steps' (Pew Center 2004). This issue of a Seminar of Governmental Experts discussing future commitments brought up highly tempered debates and even led to a split in the 'G77 and China' coalition which to this point had maintained a more or less unified front in their refusal to discuss anything that could lead to new commitments (Pew Center 2004). It is expected that developing country commitments will become an even more central issue in the upcoming negotiations for the post-2012 period. China is prepared for increasing pressure in the negotiations for the next commitment period, but there are no indications that the position on developing country commitments will change in the near future.

The latest development in China's response to climate change was the somewhat surprising announcement that China had joined a new climate pact with the US, Australia, Japan, South Korea and India known as the 'Asia Pacific Partnership for clean development and climate change' (BBC 2005). The pact which was made public on July 28 2005 is non-binding and many critics therefore fear that it will be ineffective and undermine the Kyoto process. The member countries themselves assure that the new deal will complement the Kyoto Protocol, not replace it. It is still too early to say anything about the concrete implications of the agreement, as the group's first summit will be held in Australia in November 2005 (ibid.).

4.4 Conceptualizing Trends in China's Climate Change Policy Across Phases

The main aspects of China's position were already hammered out in the negotiations leading up to the adoption of the UN Framework Convention on Climate Change and have been rather consistent throughout the 15 years that have passed since the international climate change negotiations were initiated. Adjectives that have been used to describe China's position and behavior in the literature and by other parties to the negotiations include 'conservative', 'defensive', 'uncooperative' and 'unconstructive' (e.g. Economy 1997).

Regarding China's position on emission reduction commitments this might be a reasonable evaluation. China's contribution to work out a 'solution' for the climate change problem has been meager, at least politically, seen in light of the large emissions China controls and its influence in the 'G77 and China'. Clearly, the level of proactiveness can generally be characterized as low. There have however been some changes. If the different dimensions of China's policy are considered the score is not necessarily equally low on all aspects, given that there are some nuances in this general picture over time and across issues.

China's position has primarily evolved around a handful of central elements. The first and most important dimension of China's climate policy is the position on commitments for China and other developing countries. China's position on this issue has been more or less unaltered throughout the history of climate change negotiations and has been characterized by strong opposition to even discuss the issue. Even the issue of voluntary commitments for developing countries has been met with resistance on the occasions it has been up for discussion. The 'G77 and China' have been quite successful in their effort to keep the question of commitments for developing countries off the official agenda, it has however been looming in the background all the time. Since the issue of future commitments has never been subject to formal negotiations, there have still not been any discussions of when, how large and what kind of commitments developing countries should have.

On the policy dimension labeled *differentiation of commitments*, China and the other developing countries have advocated highly differentiated commitments between developed and developing countries. The position has been that commitments should be differentiated according to historical responsibility or per capita emissions. In addition there should be a transfer of technologies and financial resources from developed to developing countries in order to enhance the developing countries capacities to meet the climate change challenge.

China's position on *flexible mechanisms* has changed significantly from initial resistance to what can be characterized as a more pragmatic approach. As the understanding of the mechanisms and their potential benefits to China has become clearer China has become less skeptical and more receptive to the CDM (Zhang 2003: 74f). Participation in the CDM can be characterized as low-cost, and possibly even a negative cost obligation at least in the long run. Nevertheless it has required the establish-

ment of new institutions, regulations and a national system for approval and implementation (Bang et al. 2005: 25). One reason for remaining skepticism towards the CDM is that China should not let others pick the 'low-hanging fruit', meaning selling away all the low-cost mitigation options if China has to take on commitments later.

The central arguments employed by China to defend its positions in the negotiations are founded on China being a developing country which should not be required to reduce its emissions in a way that harms further development. As a developing country China has limited capacity to reduce emissions and lacks the necessary technological solutions to do so. Moreover, China's per capita emissions are low compared to the world average and especially compared to the US. Another argument repeatedly used is that China's historical responsibility for emission of greenhouse gases is very limited. China often refers to the measures already implemented that have limited the growth of China's GHG emissions such as energy conservation and population control (Tangen et al. 2001: 239).

Recent years have witnessed a change in China's negotiation style, according to observers. A small change in rhetoric could be observed by developed country negotiators at COP-10. China was more cooperative than for instance India (Heggelund 2005: 10).⁴⁰ There has also been a generation shift in the Chinese delegation and the new negotiators have a less aggressive tone. They are more confident with international settings as China has dramatically increased its interaction with the surrounding world recent years, and they speak English very well. As China has gradually become more integrated into the international community, skills to communicate with the surrounding world have improved substantially.⁴¹ This does not necessarily indicate that China's fundamental position is about to change, it is more likely a change in style. Although not significant for the outcome of the negotiation process, this change has facilitated the dialogue with the Chinese.⁴²

The main strategy for the Chinese government has been to avoid any reduction commitments by refusing to discuss the subject. In other words, China has attempted to influence the negotiations by keeping the issue off the agenda. Maintaining a strong and united developing country front has also been a priority for the Chinese. Together with the other developing countries China has by every means tried to keep developing country commitments out of the official agenda. Most of the time China's position has been expressed through the 'G77 and China' group, and on many occasions China has acted as a leader in the group. Although the 'G77 and China' often seems to have one common position, the interests of the different countries in this group are very heterogeneous. It can be hard to distinguish China's position from the common 'G77 and China' position, because the internal decision-making process in the 'G77 and China' is characterized by a low degree of transparency, and is conducted behind closed doors during the Climate Conferences.⁴³ There have been speculations about how much longer the 'G77 and China' can continue to uphold a common position given their largely differing interests. China has however no plans to leave the group in the near future, according to one of the leading Chinese negotiators.⁴⁴

China's absolute rejection of emission targets for developing countries does not necessarily mean that China is unwilling to change its behavior as a response of being involved in climate change cooperation. Even though China is *de jure* unwilling to commit to binding emissions cuts, it is *de facto* enacting a number of measures that contribute to slowing the growth in Chinese emissions such as restructuring of the energy sector, improving energy efficiency and exploring alternative energy sources to coal. China has also shown willingness and a more flexible approach towards bilateral cooperation projects aimed at reducing emissions (Kobayashi 2003). China has moreover established new domestic institutions to coordinate policy responses and to deal with implementation of CDM as part of its response to participation in the international climate change regime. It was also recently announced that '...China is now developing the National Strategy for dealing with Climate Change and it is expected to be officially issued within this year' (Liu 2005a). This can be seen as development in the right direction, since China been lacking an official climate change strategy until now.

One of the few formal obligations the non-Annex I countries have under the Climate Convention is to 'communicate information on their GHG emissions and implementation measures to the COP' (Chayes and Kim 1998: 516). Both Annex I and non-Annex I parties are committed to communicate GHG inventories, using comparable methodologies. In the beginning China strongly opposed the idea of monitoring and reporting (*ibid.*). The launch of China's Initial National Communication on Climate Change in November 2004 spurred certain optimism. It was officially presented together with Brazil at COP-10 held in Buenos Aires, Argentina in a side event to the negotiations. The inventory of GHG emissions is based on emission data from 1994, but is an important development nonetheless, being the first official reporting of China's GHG-emissions (National Communication 2004). China had thereby fulfilled its only formal commitment under the FCCC and demonstrated that China is taking its commitments seriously. The preparation of the Communication was sponsored by GEF and UNDP.

So then, how can China's foreign policy on climate change be classified? In general the level of proactiveness can be characterized as low. Although the fundamental principles in China's climate change policy seem to be immovable, the changing attitude towards CDM and the recently released National Communication are indications of China moving from a non-commitment position to a minimum-commitment position. China's follow-up behavior can be characterized as more proactive than its negotiating positions and strategy.

5 Empirical Mapping of the Explanatory Factors

In this chapter the explanatory factors involved in the hypotheses inspired by the theoretical approaches will be empirically mapped and classified. The empirical data will be presented in accordance to the three explanatory models. Some of the information is relevant for more than one model given that the models look at the same phenomena from different perspectives. For instance vulnerability and abatement costs are central input for all three models. In the URA model they are important aspects of the cost-benefit calculation in the evaluation of different policy options. In the DP model the sub-national actors' perceptions of vulnerability are decisive for their preferences in the domestic politics processes leading to the adoption of a climate policy. In the SLI model learning process can change the policy-makers' perceptions of the problem and also vulnerability and costs. To avoid being repetitive, these factors will only be outlined fully only once. For that reason the first model will seemingly be given more weight in this chapter than the other two.

5.1 Unitary Rational Actor: National Costs and Benefits

5.1.1 *Expected Damage Costs: China's Vulnerability to Climate Change*

China's vast territory, covering 9.6 million square kilometers of land, stretches over various climate zones of which 46% is situated in the temperate zone and 26% in the tropical and sub-tropical zone. The precipitation patterns vary greatly both seasonally and regionally. In general the south-west areas can be classified as wet, the northwest dry, and the central areas semi-arid (CCASIA 2004). The complex climate situation in China combined with a great variety of ecosystems means that climate change impacts can come in a wide range of different forms. China has already experienced an increase in mean temperature by 0.4 to 0.5 degrees during the last 100 years (Xinhua 2004) and in accordance with the global climate trend the 1990s was one of the warmest decades in the last century (National Communication 2004).

According to the IPCC some of the expected consequences of a further increase in the mean temperature are sea-level rise, melting of glaciers, changed precipitation patterns and increased frequency of extreme weather events, all of which could have severe negative effects on human life and well-being as well as on the economy (IPCC 2001a). Chinese scientists have studied the consequences of global climate change on China since the early 1990s. The studies have focused on four areas which are all closely related to the economy; coastal areas, water resources, terrestrial ecosystems and agriculture (National Communication 2004).

One of the expected consequences of climate change is a rise in the sea-level, due to heat expansion of water and glacier thawing (Yao 2002). China has a very long (32,000 km) and densely populated coastline and some of the largest and most economically developed cities like Shanghai, Tianjin and Guangzhou are situated in low-lying coastal areas. Chinese research has estimated that a 1-meter rise in sea-level would

inundate 92,000 square kilometers of China's coast, thereby displacing 67 million people that live in coastal areas (World Bank 1997 in Harris 2003). The coastal areas are also expected to suffer from the increased frequency of severe storms, salt-water intrusion and land loss (IPCC 2001a). In 1998 there was record flooding in several regions which contributed to slow down the economy (Zhou et al. 2000: 1).⁴⁵

Climate change could also lead to increased precipitation intensity, particularly during the summer monsoon, something that could result in increasing the flood-prone areas in temperate and tropical regions (CCCIN 2003). In the period between 1950 and 1989 the annual average size of the area struck by flooding was 8 million hectares. From 1990 to 1998 this area increased to 16.7 million hectares in average (NCCCC 2001). Increased temperatures will intensify the already existing desertification and drought problems in arid and semi-arid areas, particularly in north-west, north and north-eastern parts of China.⁴⁶ Even if the rainfall will increase in some of these areas, the evaporation will increase far more, thus leading to drier conditions and potentially more severe droughts (Yao 2002). In addition the drought will increase the probability of sandstorms, which already is a huge problem in the northern areas. In general it seems like the changes in precipitation patterns will intensify unfavorable natural conditions that already cause great problems for humans as well as ecosystems, such as floods and droughts.

The shortage of fresh water resources is another already existing problem which is likely to be seriously intensified by climate change. China's per capita water resources are about a fourth of the world average (National Communication 2004: 1, 6). The widespread water scarcity problems in China are also a consequence of the rapid economic growth, industrialization, and urbanization – accompanied by inadequate infrastructure investment and management capacity. More than 300 of China's 640 major cities face water shortages. 100 cities face severe scarcities (IPCC 2001a: 566).

As in most developing countries the climate-sensitive agricultural sector accounts for a relatively large, although decreasing share of China's GDP compared to industrialized countries.⁴⁷ China's agricultural sector is already victim of many environmental problems like water pollution, pollution of the soil and acid rain causing great losses of output. Climate change will exacerbate this pressure, something which may be detrimental due to China's dependency on steady and reliable food supplies to feed its huge population. Agricultural output will suffer both from changes in the mean climate altering the conditions for crop production as well as changes in climate variability, particularly by the increased occurrence of extreme weather events such as severe storms, heat waves and damaging frosts (CCCIN 2003). A British-Chinese study of the impacts of climate change on food production found that China's yields of rice, wheat and corn could decrease by 37% over the next 100 years if the warming trends continue. Rice production could fall by a fifth by 2080 (CCCIN 2004).

How do Chinese policy-makers perceive damage costs? In China's recently completed Initial National Communication on Climate Change, it

is explicitly stated that China is vulnerable to the consequences of climate change and that the expected impacts are reason to worry. Although the scientific uncertainty of the assessment of impacts is emphasized, the National Communication gives many examples of how climate change has already affected China (National Communication 2004: 5-7). In addition the increased emphasis on the need for adaptation activities and economic support for such activities moreover indicates that climate change is perceived as a potential threat to Chinese national interests.

As demonstrated above, China can be characterized as highly vulnerable to climate change. (IPCC 2001a). The scale and complexity of China's vulnerability to the consequences of climate change makes it reasonable to believe that *costs of adaptation* will be high. Adaptation to impacts of climate change will include securing the supply of food and water and protection of the coastal areas. In addition China's low per capita resources make adaptation challenging (National Communication 2004).

Summing up, China's expected damage costs from climate change can be characterized as high. Areas housing millions of people can be struck by sea-level rise. Climate change is also expected to affect agricultural output and fresh-water resources, implying severe ramifications for China's enormous population. Moreover the damage costs are expected to be even more serious since China's adaptive capacity probably is limited.

5.1.2 *Expected Abatement Costs (and Benefits)*

Given that China has no commitments to limit or reduce its GHG emissions under the Kyoto Protocol, abatement costs are more a reflection of the decision-makers assessment of what impacts emission reductions would have on China's economic development. Even though China's economy has been one of the fastest growing in the world it is a top priority for the Chinese government to maintain the rapid growth. China is in any case a developing country and development and industrialization are its main concerns. Since the late 1970s when the economic reforms were launched, the 'legitimacy of the Communist Party has rested primarily on the pillars of nationalism and economic growth' (Economy 2001: 234).

Expected abatement costs are dependent on prospected energy demands and potential for fuel substitution (Rowlands 1995). China's total GHG-emissions in 1994 were 3650 ton of CO₂-equivalents, of which CO₂ accounted for 73%, CH₄ for 20% and N₂O for 7% (National Communication 2004). 96% of China's CO₂-emissions are resulting from energy activities (Malik 2005), thus China's potential costs of mitigation will largely be related to restructuring of the energy sector, energy efficiency measures and energy conservation. As pointed out in Chapter 2 China's greenhouse gas emissions are largely a result of its heavy reliance on coal for heating and electricity generation. In 2003 gross energy consumption was 1.68 billion tce, an increase of 13% from 2002 (Guan 2004). Energy demands will continue to increase along with economic growth, although not as quickly.⁴⁸

There are two main strategies to reduce the CO₂-emissions produced by the use of fossil fuels. The first option is to improve energy efficiency; the second is to switch the energy supply from coal to alternative energy sources. Improving energy efficiency is the most cost-effective strategy for reducing CO₂-emission, at least in the short term (Fang et al. 1998: 122). Although improving, the energy efficiency in China is rather low compared to most OECD countries, indicating a great remaining potential for better energy efficiency.⁴⁹

The Chinese leadership has decided that the expansion of electricity production will be based mainly on coal (Fang et al. 1998: 119-121). Seeing that coal will continue dominating the Chinese energy sector for a long time, strategies to reduce emissions from the use of coal have to be considered. Actually it is possible to improve the efficiency of coal utilization significantly through various technologies (ALGAS 1998: 63). Clean coal technologies such as coal washing make the use of coal more efficient and less polluting (Glomsrød 2002).⁵⁰

The potential for development of alternative and renewable energy sources like wind and solar power in China is vast, but still not commercially profitable. While the price for 1 KW/h generated from coal is 0.35 Yuan, the price of wind-generated electricity is 0.50 to 0.60 Yuan per KW/h (Guan 2004). China has declared that it would generate 10% of its power through renewable sources by 2010, which is a rather ambitious goal (New York Times 2004). In addition a new law on renewable energy was recently approved. Despite China's abundant coal resources, the country is actually experiencing coal shortages, because demand increases fast enough to outpace supply (Mai 2005).⁵¹ This demonstrates China's strong dependence on coal, and suggests that commitments to reduce the usage of coal can be seen as a threat to China's energy security.

Improving energy efficiency, diversifying energy sources and reforestation⁵² can all be considered as so-called 'no-regret' options. These mitigation options will actually imply improvements for the energy sector and are consistent with national development goals and relevant policies (ALGAS 1998). The widespread use of coal has severe environmental impacts locally, regionally and globally. On the local level, the combustion of coal causes air pollution leading to respiratory diseases and cancer. The health problems and premature deaths also cause great costs to the Chinese society in terms of lost productivity. A study conducted by the World Bank shows that the real costs to society caused of coal consumption in Beijing is 100% higher than the current price (Saich 2001: 295).

On the regional level China's coal consumption has caused an increasing acid rain problem. This has become a problem not only in large parts of China, but also in neighboring states. When it comes to global environmental problems, coal produces more CO₂ per unit than other fossil fuels, because of its high carbon content (Fang et al. 1998: 121). Moreover, the Chinese coal is often of low-grade types; high in sulphur content and low in energy content (ibid.). It is obvious that the rapid increases in energy demand make it absolutely necessary to speed up the exploration of alternatives to coal (Guan 2004). As Hatch remarks '...the major contribution

China can make to combating global warming is through addressing domestic environmental problems' (2003: 61). Efforts to limit growth of emissions from the use of coal will have positive side-effects both for the energy sector by reducing energy shortages, diversifying the energy supply and for local and regional environmental problems like air pollution and acid rain.

Summing up, China's expected abatement costs are relatively high. By relatively high I mean that there are a lot of potential abatement possibilities and that the costs of emission reductions per unit of for instance CO₂ are quite low compared to industrialized countries with much higher energy efficiency. The reasons that China's costs of mitigation can be characterized as high nonetheless, are mainly China's developmental status and its energy situation. Rapidly growing energy demands in combination with a coal dominated energy structure require a major restructuring process of the energy sector in order to actually reduce the size of China's emissions.

5.1.3 Issue-linkages, Side-payments and Image

China's participation in international regimes has increased dramatically during the recent two decades of 'open-door policy'. China's approach to international cooperation is influenced by a set of enduring foreign policy values which can be summarized by the 'maxi-mini principle' – maximization of rights and minimization of responsibilities. The maxi-mini principle cover a set of enduring foreign policy values that China brings to the negotiating table across a range of issues (Economy 2001: 232).

Economy suggests that one of China's main motivations for taking part in international cooperation is the possibility of gaining 'access to technical expertise, foreign aid, and information in order to further its goal of economic development' (2001: 232). Being both a major contributor and a potential major victim of climate change, China has also become one of the major recipients of climate-related aid. China is the largest recipient of environmental aid from the World Bank and has also received great amounts of financial support for climate projects from other agencies such as the UNDP, and the Asian Development Bank (ADB) (Economy 1997). Furthermore, China has succeeded in getting quite a lot of financial support from bilateral cooperation projects on climate change with the US, Canada, Australia, Switzerland and Norway among others. By the end of 1998, China had received \$3.34 billion in loans and \$420 million in grants from overseas for environmental projects (Zhang 2003: 73).

China also received 17% of the total funding for climate change projects from the Global Environmental Facility (GEF) during the 1991-2002 (ibid.). Of the nearly \$ 467 million GEF has allocated to China, more than \$ 300 million has been spent on climate change projects. This means that 70% of the total funding has been used on climate policy related projects such as energy efficiency, renewable energy etc (Good 2004; Heggelund et al 2005).

Regarding transfer of technology China's view is that 'developed countries are only interested in transfer of technical information, while developing countries deem technology transfer on non-commercial and preferential terms most important' (ENB 1997a). The CDM has been regarded as a more promising way of getting access to technology than the transfers that was granted under the Convention (FCCC, Article 3.4). China is expected to be a number one host country for CDM projects because of its huge emissions and abundance of low-cost reduction possibilities (Zhang 2004; Wei et al. 2004). When China ratified the Kyoto Protocol in 2002 it became eligible to CDM projects. So far only two projects have been approved, but there are many more in the pipeline.⁵³ When the United States pulled out of the Kyoto process, the market for CDM projects decreased significantly. With one of the expectedly most important buyers out of the market, the competition between the developing countries for CDM investments increased.

Another prominent aspect of China's approach to international regimes is China's concern about its international image, and how it wants to be viewed as a cooperative and responsible actor (Oksenberg and Economy 1999: 21). Solidarity with the developing world is a related value that China traditionally has found to be important in its foreign policy relations (Zhang 2003: 78). When the climate issue emerged in the late 1980s it provided 'an unprecedented opportunity for China to boost its prestige and shore up support from developing countries' (ibid.).

Being the largest developing country and having a permanent seat in the UN Security Council, China was well positioned to take on a leadership role in the developing country group. Immediately preceding INC-2 the Chinese government convened a two-day 'Ministerial Conference of Developing Countries on Environment and Development' in Beijing June 1991 with the aim of establishing a uniform developing country negotiating position. The conference convened delegates from 41 developing countries and resulted in the adoption of the 'Beijing Declaration on Environment and Development' (Economy 1997: 33). The Beijing Declaration stressed technology transfer and provision of new and additional financial resources, and thus foreshadowed some of the North-South debates in climate change context (Zhang 2003: 79). According to Economy (1997: 39) China used its position as a relatively influential developing country to mobilize the developing world to support its position. By emphasizing the importance of a united developing country front, it was 'ensured that there would be no defections by other players which would permit alliances with the more proactive Western European countries and which would bring pressure to bear on the People's Republic of China' (ibid.).

The lack of leadership on the issue of climate change from one of China's most important counterparts in international affairs, the US, has implied minimal pressure on China to take a more proactive stance (ibid.). The relationship between the US and China in the field of climate policy have been influenced by the US conditioning its willingness to take on serious commitments on the introduction of similar commitments for developing countries like China and India. China on the other hand '...has emphasized that as long as the United States does not take on commitments, it

would be politically unacceptable for them to do so' (Bang et al. 2005: 26).

5.2 The Domestic Climate Change Policy-making Process

This part will consider the domestic influences on China's climate change policy. First it will look at the relevant bureaucratic actors, and the priorities and preferences each of these actors bring to the table. This will be followed by an attempt to describe policy-making process and these actors' roles and degree of influence in the domestic policy-making on climate change.

5.2.1 *The Chinese Climate Change Bureaucracy: Actors and Institutions*⁵⁴

The National Coordination Committee on Climate Change (NCCCC) was established in 1998, and is the highest climate policy-making body in China. It is in charge of coordinating the 15 bureaucratic units dealing with climate related policies and activities, and the international negotiations. The inter-ministerial committee consists of 15 senior officials and is at the time being headed by the National Development and Reform Committee (NDRC) (Heggelund 2005). Previously, before 1998, China's Meteorological Administration (CMA) was responsible for coordinating climate policy issues in China.

The NCCCC meets on a regular basis to discuss policy coordination as well as practical matters, especially before the annual climate meetings (the COPs). In addition to NDRC and CMA, the Ministry of Foreign Affairs (MOFA), the Ministry of Science and Technology (MOST) and the State Environmental Protection Administration (SEPA) are the most central actors in China's climate change bureaucracy (Heggelund et al. 2000).

China Meteorological Administration (CMA previously State Meteorological Administration) was one of the lead agencies in the initial stages of China's climate policy. CMA coordinated China's participation in international scientific process as the IPCC got underway in the late 1980s and early 1990s. These activities led to a gradually emerging awareness of the potential impacts of climate change on China within the scientific community (Hatch 2003: 49). When China ratified the Climate Convention in 1994, CMA was put in charge of coordinating its implementation (Hatch 2003). CMA adopted a pro-active position from the beginning and worked actively to develop China's scientific capacity for climate monitoring and modeling, both through domestic support and international funding. The CMA director at that time, Zou Jingmen, managed to persuade the World Meteorological Organization (WMO) to place one of eight base line monitoring stations for greenhouse gas emissions in China through aggressive lobbying (Economy 1994: 150). CMA's research relied heavily on data from WMO and from American and Canadian scientists (Johnston 1998: 584).

In the post-scientific discussions, when focus was turned to the economic aspects of climate change (and climate change cooperation) the role of

CMA diminished clearly (Economy 1994: 151) At a Conference of the Chinese Academy of Science, the current head of CMA, Qin Dahe emphasized the negative and irreversible impacts of global warming. He stressed that China needed to increase its investment in long-term research on climate change and its effects and ‘...take appropriate measures’ (Xinhua 2004). This indicates that CMA still is among the more proactive actors in the domestic climate change debate.

In 1998 the NCCCC was restructured and the **National Development Reform Committee** (NDRC) took over the main responsibility of coordinating China’s climate change policy. The NDRC has the mandate among Chinese Government agencies for leading national activities related to climate change (CCCIN). The previous State Planning Commission (SPC) was renamed State Planning and Development Commission (SPDC) in the major restructuring process in 1998, and changed its name once again to NDRC in 2003. The NDRC has the overall responsibility for China’s economic development and its predecessor SPC was also a central actor in the planned economy (Heggelund et al. 2000: 8).

NDRC is one of the most important and influential bureaucratic units in the Chinese political system, and its influence was further increased in the 2003 restructuring when it took over the responsibilities of the State Economic and Trade Commission which was then abolished (Heggelund 2005). The SPC entered the national climate change policy-making process at a late stage, but rapidly assumed an important role as economic and energy issues became more central in the domestic climate change debate (Economy 1994: 153). SPC’s initial position towards climate change was skepticism about science of global warming and it generally opposed any commitments that could impede economic growth (Hatch 2003: 49). NDRC highest priority is maximizing economic development and rapid expansion of energy supplies (with overwhelming reliance on coal) (ibid.). In the view of NDRC, there is no capacity for China to take on commitments yet and it is also too uncertain how potential commitments will affect China (NDRC official [interview]). The transfer of coordinating responsibility for climate change to the NDRC from CMA can be seen as an indication of climate change becoming more important in economic terms.

The **Ministry of Foreign Affairs**’s (MOFA) role has been to lead China’s participation in the international political negotiation process. In the domestic debate its strategy has been to place climate change in a wider foreign policy strategy context (Economy 1994: 155), and furthermore to ensure that political and economic interests were served by the climate change negotiating process. To align with other developing countries has been a priority for MOFA which organized the Beijing Conference in 1991 with the aim of establishing a unified negotiating position for developing countries. ‘...MOFA regarded the negotiations as a vehicle for asserting leadership in the third world’ (Chayes and Kim 1998: 528).

In the pre-Convention deliberations (together with SPC) MOFAs position was that a limited Chinese response was necessary in order to secure economic development and because of sovereignty concerns (Economy 2001: 246). Even though China through its growing participation in inter-

national cooperation is increasing its interdependency with the surrounding world, securing China's independence and sovereignty can be characterized as a supreme value guiding China in international relations (Johnston 1998: 567). Sovereignty concerns have also been expressed with regards to monitoring and emission reporting. 'Chinese cooperation on global environmental affairs has been hampered by concerns over sovereignty, and an aversion to monitoring, reporting demands or transferring decision-making authority to an international body (Oksenberg and Economy 1999:19). MOFA's impact on the policy process has been significant (Economy 1994: 155).

The **State Environmental Protection Administration** (SEPA, previously NEPA) became an independent bureaucracy in 1988. Ten years later the former NEPA was upgraded from semi-ministerial to ministerial level as the State Environmental Protection Administration (SEPA) (Hegge-lund et al. 2000: 9).⁵⁵ NEPA was primarily concerned with domestic environmental issues before becoming involved in climate change policies. However, Qu Geping the former director of NEPA, was an active and articulate advocate for a proactive climate change policy both at international and domestic level. As early as in 1989 he expressed his concern that global warming would have detrimental impacts on China and its people unless concerted action was taken (Economy 1994: 152). SEPA can be characterized as a weak bureaucratic agency, facing constant challenges to its authority by for instance the Ministry of Forestry, the Ministry of Energy, the Ministry of Agriculture and SPC. In the case of China's participation in international ozone diplomacy SEPA, on the contrary, played an important role and was much more heavily involved in the policy process (see Economy 2001).

Ministry of Science and Technology (MOST, previously SSTC) deals with the technical aspects of China's participation. Together with NEPA, SSTC saw it as China's responsibility to actively respond to climate change because of China being a major contributor, as well as the possibilities perceived by some officials that an active response would provide access to technology and environmental management systems (Economy 2001: 246). SSTC was originally responsible for drafting the final report for the negotiations before the initiations of the climate negotiations, but was replaced by the SPC, which was politically more powerful but lacked the expertise to develop a sophisticated analysis (ibid.). MOST's position is that China should have a 'more proactive climate policy in order to gain access to new technologies from abroad' (Economy 2001: 248) based on the argument that 'China is missing significant opportunities to advance its technological know-how because of a reluctance to agree to any sort of cooperation' (ibid.) Today MOST plays a crucial role in China's participation in the CDM, which is China's main point of involvement in the international efforts to reduce GHG-emissions.⁵⁶

5.2.2 Decision-making Process and Distribution of Power Among Domestic Actors

Summing up, CMA, SEPA and MOST appear to be the most proactive actors in Chinese climate change politics, while MOFA and NDRC are cautious of taking a proactive approach, stressing the importance of econ-

omic development and sovereignty. The Chinese policy-making is not transparent and it is not possible to say anything about the exact nature of the decision-making process (Heggelund 2005). It is however clear that the various bureaucratic actors involved in climate change policy-making have differing interests and that influence in decision-making is not equally distributed among these actors.

While SEPA and CMA were influential during the scientific phase of the policy-making process, they became marginal players during the political discussions (Economy 1997: 30). As the process advanced, NDRC and MOFA became the dominant actors regarding China's participation in the negotiations. Consequently the influence of the domestic actors in favor of emission limitations and restructuring of the energy sector was restricted (Hatch 2003: 61). As According to Economy (1997: 20) the '...long process of negotiation among the key bureaucratic actors in the People's Republic of China that resulted in an ultimate victory by the foreign policy and planning agencies, who were determined to prevent any real policy adjustment in terms of economic growth or energy use'.

NDRC is undoubtedly one of the most, if not *the* most powerful and influential actor in China's climate change policymaking (Heggelund 2005). This can be seen as an indication of climate change first and foremost being a development issue for China. Through its chairmanship in the National Climate Change Coordination group NDRC has the main responsibility to determine China's response to climate change, both internationally and on the domestic arena. MOFA is also a very influential ministry in the coordination committee and in China's participation in climate change negotiations. This reflects the fact that climate change is very much seen as a foreign policy issue in China (e.g. Tangen et al. 2001). It is not possible to determine exactly which of these two actors is the most influential, but they definitely constitute the top of the list. The importance of the different actors is also reflected in the composition of the Chinese delegation to the COPs. At COP-10 in 2004, 12 of the 37 delegation members were NDRC officials, including the head of the delegation Mr. Liu Jiang, while five of the delegates represented MOFA. MOST is the third most influential actor (Heggelund et al. 2000), while SEPA and CMA have the least influence.

5.3 Learning, Knowledge and Norms

5.3.1 The Learning Process in China

China had no history of climate change research at the outset of the negotiations in the late 1980s, except for a long tradition of paleoclimatology, which is only marginally relevant to predict global climate change (Economy 2001: 244). As a response to international attention to the emerging climate change problem, China initiated a national research program, directed by SSTC. In a short time China developed an extensive and sophisticated climate change research program, encompassing 40 projects, 20 ministries and 500 experts by 1989 (ibid.). Numerous universities, institutes and government agencies became involved in projects to examine the importance and consequences of climate change to China

(Economy 1994: 158). Contrary to many other developing nations China has been relatively active when it comes to research on climate change.

Chinese science on climate change has been greatly influenced by the international scientific community, both the IPCC and climate change research in many Western countries. 'For developing countries such as China, international experts have proven instrumental in contributing to the establishment or enhancement of a domestic expert community with shared values' (Economy 2001: 236). IPCC played an important role in initiating a national climate change research program in China. In the period from 1988 to 1990 the IPCC conducted scientific studies on possible impacts and potential response strategies to climate change. For China it was a major question whether to participate in this work and the government finally decided to do so in 1988. This resulted in the establishment of the inter-agency policy coordination group (Chayes and Kim 1998: 514).⁵⁷ China has also participated relatively actively in the IPCC and is well represented in the working groups, '...28 Chinese experts have been selected for the write-up of the fourth assessment report IPCC' (Heggelund 2005).

As was pointed out in the last section about domestic actors, cooperation with foreign scientists has generally contributed to more proactive positions among Chinese scientists and policy-makers. Especially within NEPA, but also in the SMA there was conviction about the severe ramifications climate change could have for China (Economy 1997). However these signals were not taken too seriously by the more influential actors NDRC and MOFA, and thus did not influence the outcome of the policy-making process.

Summing up, the influence of the international epistemic community and foreign scientists led to concern about climate change impacts and a more proactive position among Chinese scientists. There has been a large degree of trans-national diffusion of knowledge between international and Chinese scientific communities. However, the influence of the learning process on climate policy seems to be limited.

5.3.2 Climate Change and Perceptions of Equity

In my inquiry of the effect of international norms, ideas and principles' effects on climate change policy-making I have chosen to focus on Chinese perceptions of international justice or equity related to climate change. Equity refers to fair burden-sharing according to responsibility (total, historical or per capita), capacity (dependent on level of development and technologies) and affectedness (vulnerability). The importance of equity related to climate change has a close connection to the deep North-South divide that has characterized cooperation on climate change from the beginning. For the developing world equity is about getting a fair share of the global common – atmospheric capacity for greenhouse gases (Heggelund and Pan 2005). 'Equity has been a heart issue for China since the first day of the Convention. National development is the first concern for all countries'. (MOFA official 2005 [interview]) For China climate change is above all a development issue. The principle of 'common but differentiated responsibilities' has become a key principle

for China in the climate change negotiations. While developed countries tend to stress that responsibilities to combat climate change are *common*, China like most other developing countries stress that they are *differentiated* (Baumert et al. 1999).

China's understanding of equity is closely linked to its strong emphasis on national sovereignty in at least two ways. Firstly, as a sovereign nation China has the right to control and use its own natural resources, without outside interference.⁵⁸ Secondly, another aspect is the right to economic development which is especially important for developing countries. They should not be denied to develop in the same way as the industrialized world has been doing, even if industrialization is harming the global commons like the climate. China's lack of historical responsibility for climate change and low per capita emissions are some of the most frequently used arguments used to defend and justify of the Chinese position. Developing countries must take action first, since developing countries have the right to develop without limiting their GHG-emissions just as industrialized countries have done, focus on adaptation. The fact that China currently ranks as the second largest emitter of GHGs in the world is not a consequence of extravagant energy use or what the one Chinese negotiator termed 'luxury emissions'. China has limited its emissions and in the view of many Chinese policy-makers China has already made substantial contributions to reduce its contribution to the climate change problem (Tangen et al. 2001). International norms and principles are prominent in the Chinese position. In general commitments for developing countries are considered as unfair. As China tends to emphasize historical or per capita emissions, the Chinese leadership does not perceive China as responsible for climate change.

5.4 Summary

This chapter has empirically mapped the explanatory factors involved in the hypotheses presented in Chapter 3. It was shown that China is very vulnerable to the consequences of climate change and that climate change is increasingly perceived as a threat to China's economy. The second factor examined was the economic effects of reducing GHG-emissions. In general emission reductions are perceived as having negative consequences for economic development, even if the positive co-benefits are increasingly recognized.

The domestic politics of climate change is dominated by the NDRC and MOFA. Both tend to give priority to economic interests and sovereignty concerns rather than the threat climate change poses to China. The more proactive players, CMA, SEPA and MOST were more influential in the early stages of climate change policy-making. There has been a diffusion of knowledge from international and foreign scientific environments to the Chinese scientific community. The ideas adopted by the scientific community both through international scientific cooperation and domestic research development have on the other hand not been integrated in the policy-making in a way that has led to a more proactive approach. The notion of equity has played a very central role in Chinese policy-making on climate change, and the principle of common, but differentiated responsibilities has been adopted as a key principle which almost every aspect of China's position evolves around.

6 Empirical Analysis: Juxtaposing Theoretical Insights and Empirical Facts – Explaining China’s Climate Change Policy

The following analysis is divided into two parts according to the research question presented in the introduction: *What factors have determined China’s climate change policy in the past, and how are these factors likely to influence China’s future climate change policy?* In the analysis’ first part (present chapter) the relationship between China’s foreign policy on climate change (as outlined in Chapter 4) and the explanatory factors suggested in Chapter 3 is analyzed in light of the empirical description of these variables in Chapter 5. Three models were used to establish a set of hypotheses about the causal relationship between the independent variables and China’s climate change policy-making process and outcome. First, I will look at the explanatory factors separately to examine to what extent each of the factors can explain China’s climate behavior. Then I will discuss the proposed explanatory factors based on the three models in conjunction and I will attempt to establish their relative explanatory power in predicting the outcome of climate policy choices in the case of China. I will further try to expand the analysis from narrowly considering each of the factors in isolation to also considering how the different sources of influence interplay. This will constitute the main part of the analysis. The second part of the research question will be treated in Chapter 7.

In Chapter 4, which focused on the dependent variable, China’s international response to climate change was characterized by a low level of proactiveness, meaning that China has not worked very actively to promote a strong agreement and has been unwilling to take on commitments. Furthermore it was pointed out that continuity rather than change has been a prominent feature of Chinese climate policy throughout the last fifteen years. China has all the way been a strong opponent to commitments for developing countries. The most notable change in China’s position has been the increasingly positive attitude towards the Clean Development Mechanism (CDM). Also on the issue of emission reporting there has been a change. How can continuity and change in Chinese climate change policy be explained?

6.1 The URA Model: Calculating National Costs and Benefits

The URA model pictures the state as a unitary, rational actor i.e. as a group of policy-makers with shared perceptions of the values to be maximized in response to a perceived problem (Lieberthal and Oksenberg 1988: 11). A rational actor is assumed to make policy choices based on a constant evaluation of the costs and benefits related to available policy options, always choosing the option which is believed to maximize given national values. The problem confronting the Chinese government is both the threat that climate change poses to China per se and the call for international cooperation to address the problem. Based on the assumptions of the URA model four hypotheses about factors influencing the choice of climate policy response were suggested.

6.1.1 *Expected Damage Costs*

Based on the assumptions of the URA model I suggested the following hypothesis: *If the damage costs of climate change impacts are expected to be high, the likelihood of a proactive Chinese climate policy is enhanced.* In other words, it is reasonable to assume that high expected damage costs act as a driving force to adopt a more proactive response to climate change because economic interests are threatened by climate change impacts. Vulnerability to climate change is determined by a country's geographical and climatic conditions, but also by the socio-economic capacity to adapt to the adverse consequences of climate change. As demonstrated in Chapter 5, China has been characterized by the IPCC as highly vulnerable to the consequences of climate change in ecological terms as well as social and economic (IPCC 2001a). Climate change could have serious negative impacts on the climate-sensitive agricultural sector and the already scarce water resources, both areas which are vital for development and human well-being. China's level of economic development is still rather low, at least on a per capita basis, and the wide range of possible impacts imply that China's capacity to adapt to the adverse consequences of climate change is low. This further enhances China's vulnerability.

Based on China's vulnerability one could expect a more proactive foreign policy on climate change than what was outlined in Chapter 4. However, it is important to remember that policy choices in the real world (where full information is unattainable) are based on policy-makers' *perceptions* of how climate change will affect national interests like economic development and human well-being (Harris 2003: 5). Even if the most stringent version of the URA model assumes actors are fully informed about the problem situation and the consequences following from each of their available policy options, this is only possible in theory. The question then, is how vulnerability to climate change is perceived in China. The Chinese scientific community has generally accepted climate change as a threat and is concerned about its impacts for China. Nevertheless, Chinese scientists tend to be less pessimistic than IPCC in their conclusions (Zhang 2003:79). Chinese policymakers are also becoming increasingly aware of the negative impacts of climate change as was demonstrated in this recent statement by Liu Jiang, executive vice-chairman in the National Coordination Committee on Climate Change:⁵⁹

China, with its fragile ecological environment, is vulnerable to negative impact of climate change. According to the preliminary studies by Chinese scientists, climate change will continue to exert profound influence on the ecological environment as well as the social-economic system in China... (Liu 2005b).

The emphasis on adaptation and need for increased funding for adaptation purposes has been a central element in China's position since COP-8 in New Delhi.⁶⁰ This can also indicate that China and other developing countries are aware of their vulnerability and fear the consequences of a changing climate.

The reason why vulnerability has not led to a more proactive approach is not necessarily lack of information or disbelief in the scientific evidence

of potential impacts of climate change. The lack of a proactive response despite high vulnerability can be explained by the fact that ‘...environmental policies are also shaped by socioeconomic and institutional capacities to protect the environment’ (Sprinz and Vaahtoranta 1994: 79). Developing countries have limited capacity to deal with such problems and will have to prioritize their scarce resources. In the case of China and most other developing countries, climate change is perceived as a threat, but compared to other issues it is a relatively long-term threat. In the short term economic development is much more important, even if it causes climate change in the long run. China *does* have concerns about climate change impacts, but naturally tend to give priority to short term growth, poverty alleviation and reduction of more acute local environmental problems like pollution of air and water (Bang et al. 2005: 24).

So far perceptions of vulnerability have not made China more willing to accept any emission reduction targets. This does not mean this factor is without influence on Chinese climate policy-making, and can be rejected without further questions. The fear of economic consequences related to climate change impacts has probably led to a general recognition of the importance of international climate change cooperation. Knowing that they are expected to suffer most from climate change has also made developing countries pushing for more immediate actions from developed countries. It is not likely that they would do this if they did not find preventing climate change a very important issue. ‘China and India [...] have played a critical role in the climate regime in exerting pressure on the industrialized countries to take the lead in enacting emissions cuts’ (Agrawala and Andersen 2001: vi). The fear of high damage costs has also increased the emphasis on the need for adaptation activities in developing countries.

The fact that China is vulnerable to climate change is often linked to the need for funding and technologies. According to the section about ‘Needs for funds, technologies and capacity building’ in China’s Initial National Communication ‘China is relatively sensitive and vulnerable to climate change in the fields such as agriculture, natural ecology and forestry, water resources, sea level and coastal belts, desertification and natural disasters. Technical support and funds are also needed for mitigating or adapting in these above mentioned areas’ (National Communication 2004: 18). Vulnerability has also been used to support the argument that China (and other developing countries) are the victims of climate change, and that industrialized countries need to take action first. ‘China invariably claims that it is a major victim of global climate change. It is conceivable that China makes such claims also for tactical reasons; claiming that it is a victim legitimizes demands for compensation and validates purported concerns over the climate change issue’ (Zhang 2003: 79). Thus expressions of concern about China’s vulnerability can be seen as tactical statements. In that case it is not necessarily an indication that Chinese policy-makers perceive China’s vulnerability as pressing, but rather that they like the world to see China as a victim.

Summing up, China has not changed its own climate behavior in the direction of taking more commitments because of potential damage costs related to climate change as one could expect based on the URA model.

Nevertheless, the increasing perceptions of vulnerability have probably influenced position in the direction of pushing for more immediate action from industrialized countries. Vulnerability has also been used strategically. Thus, the hypothesis can only be partly confirmed.

6.1.2 *Expected Costs and Benefits of Reducing GHG-emissions*

The second hypothesis related to national economic interests involves costs and benefits related to domestic actions to reduce GHG-emission: *If net abatement costs are expected to be high the likelihood of a proactive Chinese climate policy is reduced.* This hypothesis focuses on costs and also possible benefits of taking action irrespective of climate change effects on China. China's potential costs of reducing GHG-emissions must be understood in light of China's prospected energy demands. China's goal is to quadruple its GDP within year 2020, while 'only' doubling the use of energy (Malik 2005). Obviously, this requires ambitious goals in improving China's energy efficiency levels. The point is that China's energy use will continue to grow substantially nonetheless. Combined with the fact that China is a world leader also when it comes to dependency of coal, this implies an inevitable growth in China's CO₂-emissions.

Even though the positive side-effects of reducing CO₂-emissions such as improved energy efficiency and energy conservation are increasingly recognized,⁶¹ the general perception among Chinese decision-makers is that commitments to reduce GHG-emissions are not compatible with continued economic growth. They tend to assume '...that future, binding, quantified GHG commitments for China will have great negative macro-economic consequences for the country' (Tangen et al. 2001: 243). China's energy demands will continue to grow in a rapid pace, thus making China dependent on cheap, reliable energy supplies. In general any proposals of reduction commitments are considered a threat for further economic development and a threat to China's energy security, which is largely based on the availability of coal.

The problem does not seem to be the availability of alternatives to coal or the co-benefits of reducing the coal consumption, but rather that China's capacity to make the drastic changes in its energy structure is limited, because of the huge investments required (Harris and Yu 2005). Further reason for skepticism towards commitments are the uncertainty regarding what implications emission reduction activities will have for economic development (NDRC official 2005 [interview]). Still being a developing country with needs and rights to develop, China can simply not 'afford' to take on emission reduction commitments until it reaches the per capita income level of middle-developed countries.⁶² Moreover, the legitimacy of the Chinese government rests on the ability to maintain the high rate of growth. If curbing emissions are seen as a threat to economic growth they are also a threat to China's social stability. In other words, the costs of action are perceived to be high.

Concerns for the economic consequences of reducing GHG-emissions have been very important in determining China's climate policy. The positive side-effects of reducing emissions are increasingly recognized, but uncertainty about the relation between emission reduction and pos-

sible side-benefits and moreover the lack of necessary technological solutions, make these benefits seem distant compared to the costs of reducing emissions. Expected economic consequences of emission reductions can thus be said to have a major influence on China's climate policy.

6.1.3 External Influences

While the two hypotheses discussed above focus mainly on the costs of action versus the costs of inaction directly related to the climate change problem, this section focuses on the costs and benefits related to participation in climate change cooperation. The third factor considered was the relationship between national economic interests and engaging in international cooperation. Externally provided funding can alter the assessment of economic consequences of participation. Side-payments can be offered either to increase the less affluent parties' capacity to take action or as a condition for further commitment. Assuming that prospects for funding can work as a motivating factor, just as it did for developing countries in the negotiations leading up to the Montreal Protocol, the third hypothesis following the URA model suggest that *possibilities for funding and transfers of technology that reduces the net costs of commitments increase the likelihood of a more proactive Chinese climate policy*. To what degree has the possibility of receiving external financial and technical assistance influenced China's participation in international climate change cooperation?

As pointed out in Chapter 5, China is a major recipient of environmental aid, and has also received substantial amounts of support for climate-related projects including the preparation of its Initial National Communication. This is true at least compared to other developing countries. In China's view however, developed countries have not been sufficiently following up their commitments according to the Convention in terms of technology transfer and funding. In the climate change negotiations China has repeatedly remarked that transfer of technology has been minimal and too much based on market mechanisms (ENB 1997a).

China is expected to attract a considerable share of the CDM projects, something that can explain the turn in its position on CDM, which initially was characterized by skepticism. The possibility of getting access to technology and know-how and competition with other developing countries for CDM projects are possible driving forces of the now positive attitude towards CDM. Following China's change of attitude to consider the CDM as a 'win-win' arrangement, its general view on the Kyoto Protocol became more positive. 'It is a good thing for China that the protocol has become effective. [...] The protocol provides new opportunities for China to draw more overseas investment under the CDM arrangement' (Wang Zhongying (NDRC) cited in China Daily 2005b). To be eligible to CDM projects China needed to ratify the Kyoto Protocol. Thus the prospects for access to technology and investments may have been a contributing factor to China's ratification.

Based on experiences from the Montreal Protocol developing countries expect funding and compensation for their losses related to taking com-

mitments in return for their cooperation (DeSombre 2000: 35). The funding mechanisms under the FCCC, such as the funding administered by the GEF have not been perceived as equally favorable or credible. Anyhow, China has been a major beneficiary of GEF projects, and the possibility to get funding has probably been a motivating factor for establishing many domestic projects. The possibility to maximize access to technological and financial resources seems to be an important driving force of China's behavior in the climate regime, and this hypothesis can thus be confirmed.

The fourth hypothesis suggests that *China will minimize image costs when choosing between different climate policy options. The greater the image costs of low-commitment, the more likely is it that China will take a more proactive approach.* China's concern about international image and status can explain its strategy which has been to form a united developing country front and to take a leadership role in the 'G77 and China'. In the wake of the 1989 Tiananmen incidents China saw cooperation on global environmental problems as an opportunity to improve its disrupted international image (Hatch 2003: 51). If image was a very important driving force one could have expected a more proactive Chinese position, at least if the purpose was to 'impress' the more proactive parties like the EU. Rather than promoting a favorable image, the attempt to limit image costs also explains behavior. One of the reasons why China finds it crucial to maintain the unity of the developing country group is probably related to the image costs of taking a non-commitment approach. These are perceived as lower for a major emitter like China if it aligns with the developing country group (with rights and needs to further development independent on the resulting increases in emission levels). It is tactically wise to side with the G77 group which is generally conceived as the victims of climate change.

Lack of leadership and pressure from the US and Japan, China's most important trading partners, have contributed to keep the image costs of taking a low-commitment approach low (Economy 1997: 39). Although China is very concerned about its international image and of appearing as a responsible major power (Johnston 1998: 560), the image costs of low-commitment have not been sufficiently high to change China's behavior in the direction of a more proactive climate change policy. However, the concern about image can probably contribute to explaining China's strategy of taking a leadership role in the 'G77 and China' group. The hypothesis can consequently only be partly confirmed. However, the explanatory factor has the potential to become more important. If the EU, which is generally portrayed as the most proactive of the major actors in the climate change regime, put more pressure on the developing countries it is possible that the image costs of not taking commitments can increase. I will return to this point later when discussing the future prospects of China's climate change policy.

6.2 The DP Model: Domestic Politics Influence on Foreign Policy

The second model presented in the analytical framework is the Domestic Politics model. In this report the DP model has three focal points in its

attempt to explain how Chinese climate policy positions are formed: i) The central actors in Chinese climate decision-making; ii) the preferences and priorities of these actors; and iii) how political influence on the issue-area of climate change is distributed among them. The various bureaucratic agencies have competitive interests and priorities shaped by their positions and roles (Allison 1971: 176). The outcome of the domestic bargaining process will not necessarily be what is in the interests of 'the nation' as a whole. It might as well reflect the most influential actor's self-interest and the way climate change policy options are seen to interfere with the other (and often higher ranked) priorities of that bureaucracy. The DP model suggests that China's climate change behavior will reflect the priorities and preferences, as well as the power-balance between the most influential actors in the domestic politics of climate change. The following hypothesis was proposed: *If a proactive climate behavior is in conflict with the most influential bureaucratic actors' interests regarding climate change and other functionally related policy areas the chances of China adopting one are reduced.*

Five bureaucratic actors that are commonly portrayed as the most central in Chinese climate policy-making were examined: The Ministry of Foreign Affairs (MOFA), the National Development and Reform Commission (NDRC), the Ministry of Science and Technology (MOST), the China Meteorological Administration (CMA) and the State Environmental Protection Administration (SEPA). The empirical mapping in Chapter 5 showed that the most proactive actors were MOST, CMA and SEPA. MOST's proactive position is mainly built on the possibilities of getting access to technology. CMA and SEPA are concerned about the adverse consequences of climate change for China, and their interests are probably influenced by cooperation with foreign scientists. The most influential actors within the issue area of climate change on the other hand are undoubtedly NDRC and MOFA, which are also the actors with the least proactive position. This is due to their high priority of economic growth and sovereignty concerns, which are seen to be in conflict with a more proactive Chinese climate policy. MOFA has also emphasized the climate negotiations as an arena for China to take a leadership role in the developing world. Thus it seems like MOFA's interests regarding China's participation in climate change negotiations are mainly motivated by other foreign policy questions with higher priority. NDRC is one of the most important bureaucratic units and its main priority is to uphold the economic growth. According to the leader of the Chinese delegation to the climate negotiations which is also a NDRC official '...the United Nations Framework Convention on Climate Change is more a convention on economy and development than a convention on environment' (Liu 2005b). SEPA is more concerned with the environmental aspects of climate change impacts while CMA's interests related to climate change are more concerned with the scientific aspects.

Would China's climate policy be different if the more proactive agencies had more influence in the policy-making process? It is of course impossible to say for certain, but once again China's accession into the Montreal Protocol can provide a useful parallel. SEPA's role has been much more prominent regarding the Montreal Protocol on Substances that Deplete the Ozone Layer. In 1987 NEPA (currently SEPA) was put

in charge of coordinating an evaluation of costs and benefits of participation, compliance and implementation. Inter-agency rivalries increased NEPA's 'self-interest' in successfully follow up the agreement. For NEPA, which is generally regarded as a rather weak agency, the Montreal Protocol provided an opportunity to demonstrate its capabilities and influence (Zhao and Ortolano 2003: 716). Other agencies with interests of taking charge of the implementation of the Montreal Protocol argued that

....NEPA had little experience in either managing projects or collaborating with international organizations. Once NEPA received the State Council's designation as lead agency, it had reason to use its work on implementing the Protocol to demonstrate its capabilities. This would allow it to gain increased control over China's other efforts to solve international environmental problems. Given this opportunity to extend its domain, NEPA made implementing the Protocol a priority (Zhao and Ortolano 2003: 717).

Even if there are a range of differences between international cooperation on climate change and ozone depletion, and the Montreal Protocol can not work as fully valid counterfactual argument, it is indeed pointing in the direction of bureaucratic politics' strong influence on foreign policy.

Summing up, the hypothesis based on the DP model can thus be confirmed, and it seems like domestic politics is decisive for the course of China's foreign policy on climate change. The priorities of NDRC and MOFA can explain why China has not taken a more proactive course of action despite being highly vulnerable.

6.3 The SLI Model: The Influence of Learning and Norms

6.3.1 Learning

The SLI model assumes that negotiations are processes of learning and problem-solving where decision-makers' preferences are developing dynamically over time under the influence of ideas and norms. New knowledge about the climate change problem may change policy-makers understanding of how the problem should be approached. Based on SLI model the following hypothesis was suggested: *Learning leading to increased understanding of adverse impacts of climate change is likely to influence China's attitudes towards this problem, with the likelihood of a more proactive climate policy.* The SLI model furthermore assumed that international epistemic communities, in this case the IPCC, could contribute to the diffusion of new knowledge and create a learning process.

How can diffusion of knowledge explain the development of China's policymaking on climate change? As outlined in Chapter 5, China has in contrast to many developing countries developed an extensive national research program on climate change. Furthermore, China has also actively taken part in the activities of the IPCC, and many Chinese scientists are at the time involved in preparing IPCC's fourth assessment report, which will be launched in 2007. The active involvement in the international epistemic community on climate change has been instrumental for the development of China's climate change research.

Another question is how this active involvement in the international scientific community within the area of climate change has influenced Chinese *policy-making* on climate change. As pointed out in the discussion of the DP model, the bureaucratic agencies which have the closest connection to the scientific community, like CMA, MOST and SEPA are not the ones that are most influential in climate change policymaking. These agencies have on several occasions tried to emphasize China's vulnerability and the alarming impacts climate change could have on China as a reason for adopting a more proactive climate policy (Economy 1997). Thus, China's potential vulnerability has actually led to a more proactive position among some of the bureaucratic actors, just as the first hypothesis under the URA model suggested.

As pointed out in Chapter 3, the hypotheses based on the SLI model are difficult to confirm or reject, given that learning through diffusion of knowledge and norms are processes that are more difficult to trace empirically than decision-making. It seems like there has been a diffusion of knowledge between the international scientific community and the Chinese scientific community. However, the implications for Chinese policy-making seem to be small. The influential actors in climate change policymaking have so far chosen to ignore the results from Chinese scientists and rather focus on rapid economic development and concerns about sovereignty.

Another possibility that needs to be considered is that the apparent difference in perceptions regarding vulnerability can be explained not as a consequence of difference in learning, but because the actors are most likely to accept that image of vulnerability that matches their interests best. As an example it is possible that NDRC has more or less chosen to see China as less vulnerable than it is in the eyes of NEPA and CMA, because NDRC's interests are better served by an image of a less vulnerable China. This is not to say that knowledge about climate change impacts is without significance. It is however likely that domestic actors' interests and preferences influence their receptiveness to new knowledge. If interests shape learning more than learning shapes interests, the explanatory power of learning is weakened. The hypothesis about learning can thus not find sufficiently support to be confirmed.

6.3.2 The Influence of Norms – Equity Considerations and Climate Change Policy

How do international norms, and in particular the notion of equity influence China's foreign policy on climate change? To understand developing countries' positions on climate change, equity concerns must be taken into consideration. There are major differences in the interpretation of 'equity', especially between countries in the North and South (Richards 2003). 'G77 and China' have generally perceived climate change as a development issue, 'invoking equity as the fundamental principle for addressing it' (Depledge 2005: 30). The connotation of equity for China seems to be covered by the principle of 'common, but differentiated responsibilities' which has been a key principle in China's position and has almost become a slogan for developing countries in the climate change negotiations. Responsibility in relation to climate change is how-

ever 'a multi-faceted and ambiguous' concept that can be measured in terms of total historical, current or per capita emissions (Beuermann 1997: 214).

What is China's contribution to anthropogenic global warming? And more important according to the assumptions of this model, how does China perceive its responsibility? Being home to one sixth of the world's total population, large total emissions of GHGs are unavoidable. To use the words of Gao Guangsheng, deputy director-general of the NDRC: 'China doesn't *want* its emission volume to be higher than the United States, but you have to look at our population size. The priority is to satisfy our basic demand. The economy must develop. China has 1.3 billion people and we have to live' (Agence France Presse 2004, emphasis added). China perceives its own responsibility for climate change as being low, since it considers historical and per capita emissions as the most legitimate criteria for fair burden-sharing.

In the view of Chinese policy-makers the possible imposition of emission reduction targets on China is unfair because China's large emissions are mostly due to its large population and necessary economic development. For developing countries such as China it seems unreasonable that the industrialized countries which have used their share of the global common, the atmosphere, to demand emission reductions from developing countries. China should not be punished for being a late developer. To use the words of delegation leader Liu Jiang: 'There is no such precedence in the world that one country can realize a high level of GDP while at the same time maintain a very low level of per capita energy consumption' (Liu 2005b). Developing countries should not be forced to limit their 'survival emissions', while industrialized countries are still increasing their 'luxury emissions'.

The argument most commonly used to defend the Chinese position has been that developed countries are historically responsible for the emissions causing climate change and therefore have to take action first, in accordance with the Climate Convention and the principle of common, but differentiated responsibilities. Additionally developing countries are short of financial and technological capacity to reduce emissions and are also the most vulnerable. China thus expects help from wealthier countries to help it use energy more efficiently and in cleaner forms. In addition it expects the developed countries to set an example before developing country commitments can be discussed (Harris 2003: 5).

Based on the SLI model the following hypothesis was suggested: *An agreement on climate change cooperation (or the parts of such an agreement) which is in accordance with the Chinese notion of equity will increase the possibility of a more proactive Chinese climate policy.* So what then, constitutes a fair agreement according to Chinese interpretations of equity? In the regime to protect the ozone layer, developing countries gained financial and technical assistance supposed to cover the entire, incremental costs of phasing out ozone depleting substances. The aid was decided to be distributed through a fund where decisions needed to receive a two-thirds majority, both among receivers and donors. This is quite unusual seeing as most development assistance is usually controlled

entirely by donors. Moreover the developing countries were given a ten year lag before they had to meet obligations developed countries had taken on (DeSombre 2000: 23, 30). Compensation for losses, influence on distribution of funding and differentiated obligations in form of a time lag are all factors that contributed to make the protection of the ozone layer seem fair to developing countries and made it easier to accept commitments.

According to the hypothesis related to equity it is more likely that China will accept the parts of the agreement that are considered fair. Can the turn in position on the CDM also be related to China's equity concerns?⁶³ The acceptance of CDM marks a substantial change from China's previous position of refusing all kinds of involvement. In addition to providing an opportunity to attract foreign investment and transfer of technology and know-how, another possible reason that made it acceptable for China is that it is perceived as an equitable mechanism. The host country has the possibility to decide whether projects fulfill sustainable development criteria, and thereby has a certain control of which projects to accept. China has plans to direct the CDM investments through taxation on different kinds of projects according to its needs and priorities. For instance will projects with the aim of reducing the gas HFC 23 have a high tax, while energy efficiency and renewable energy projects will have a low or no tax, because the latter will contribute to sustainable development to a larger degree (MOFA official 2004 [interview]).

Søfting (2003: 22-23) points out how social norms not only regulate behavior, but also constitute actor identity. What seems clear is that China's role as a developing country is much more prominent in China's actor identity in the climate change regime than its role as emerging economic super-power and one of the fastest growing economies in the world. The developing country identity and being one of the 'victims' can thus be said to legitimize China's low-commitment position. It is however, very difficult to confirm if China's strong emphasis on international justice in its argumentation is due to economic interests or equity concerns. This is problematic to assess since equity – as it is interpreted by the South – is almost inseparable from development concerns. As outlined under the URA model, emission reduction targets are seen as incompatible with economic development and must therefore be resisted. This factor can be seen in connection with the URA model's focus on external pressure. The importance of equity underlying China's view on how the climate problem should be solved has probably reduced the influence of external pressure from other states by legitimizing China's low-commitment position. The legitimizing function of the 'equity factor' can also contribute to explain China's uncooperative climate behavior despite its strong emphasis on international image.

Summing up, China's low level of proactiveness can be explained by concerns over international equity. On many occasions the call for equity is mainly used as rhetoric to avoid discussions about developing country commitments. However, it is also likely that the equity principle is deeply rooted in China's identity and self-perception as a speaker for the rights of developing countries. This factor can best be understood in conjunction with economic concerns and external pressure as outlined under the

URA model. Alone, its explanatory power is limited. The hypothesis can thus be only partly confirmed.

6.4 Discussion

Having discussed the different potential explanatory factors separately, which have been the most prominent in guiding the direction of China's climate change policy on the different dimensions? And how do the explanations provided by the different models relate to each other?

China was initially against quantified commitments in general and resisted the idea of 'targets and timetables'. However, this position changed, and in the negotiations leading up to the Kyoto Protocol China gave its support to relatively strong and legally binding reduction targets, closer to the EU proposal than to the US (see Chapter 4). This does not however signify a substantial change in China's interests. The initial rejection of emission reduction targets was probably due to the fear of being forced to reduce emissions as one of the world's largest contributors to the climate change problem. When China gave its support to 'targets and timetables' it was because developing countries by then had been promised that they would not have to take on abatement commitments according to the Berlin Mandate. The reassurance that developing country commitments were out of the question considerably limited the potential costs of supporting quantified commitments.

Throughout the climate change negotiations China has persistently refused to accept reduction targets and advocated highly differentiated commitments between developed and developing countries. Not only should commitments to reduce GHG-emissions be differentiated between developed and developing countries, there should also be a transfer of technological and financial resources in order to improve developing countries' capacity both for mitigation and adaptation purposes. China's position has consistently evolved around the principle of 'common, but differentiated responsibilities'.

This highlights that expected economic consequences of commitments to reduce emissions have been the most important driving force behind China's climate policy-making. The adverse impacts of climate change impacts are increasingly recognized as a threat. Nevertheless, the threat to economic development by introducing reduction commitments is perceived as more pressing. The importance of climate change as a perceived threat to economic development was emphasized in the explanations provided both by the URA and the DP model. The analysis based on the URA model showed that expected vulnerability to climate change impacts had a certain influence on climate change policy-making, but far less than expected abatement costs. The fact that developing countries are predicted to be the most vulnerable to climate change has primarily been applied as a way to justify the non-commitment position and the need for additional funding and resources to cope with climate change. This furthermore indicates that possible benefits of taking part in climate change cooperation work as an important driving force. In the case of developing countries the prospects for funding and technology can possibly be a stronger incentive to take action than perceptions of vulnerability. This is

because economic gains in the foreseeable future are more definite than future damage costs surrounded by uncertainty. The former tend to be more influential on decision-making even if the latter are potentially larger.

According to the DP model a more proactive Chinese climate policy is perceived to be in conflict with NDRC's interest which first and foremost is to maintain the high pace of growth. Future economic growth is threatened by the introduction of possible emission reduction targets. The continuation of economic growth is also important in order to maintain the social stability in China. Thus, one of the most important goals of China's foreign policy is the protection of economic stability and growth (Economy 2001:234).

The possibility of getting access to technology and to draw foreign investments to China is probably also the most important factor explaining China's changing position regarding the use of flexible mechanisms, and in particular the CDM. China was initially very skeptical to the idea of Joint Implementation projects involving developing countries when it was introduced. It was seen as a possible loophole for developed countries to avoid fulfilling their domestic commitments. Moreover, China feared that accepting to take part in JI projects voluntarily was just a way to lure developing countries in to taking commitments at a later stage. The attitude towards the CDM is becoming increasingly positive. Given that transfer of technology from developed countries has been minimal so far, the CDM is seen as a more realistic possibility to get access to technology and financial resources. Moreover participation in CDM projects can promote China's cooperative image. It is a low-cost type of participation, but has a high profile and a big audience. The acceptance of CDM can also be explained by concerns for justice, but the expected economic benefits are probably the most important factor.

Due to US withdrawal from the Kyoto process, the prospected CDM market declined substantially in 2001. This led to competition between the developing countries for limited investment, and probably contributed to accelerating the Chinese acquiescence to the CDM. The Ministry of Science and Technology has showed particular interests in CDM projects, due to possible access to new technological solutions. CDM projects are mostly bilateral projects, and may thus be seen as easier to control than multilateral commitments. This matches well with the Ministry of Foreign Affairs' strong emphasis on national sovereignty and autonomy. The voluntary aspect of CDM participation is moreover contributing to making it less risky than legally binding emission targets. If CDM proves to be less beneficial for China than anticipated, it is possible to stop accepting new projects. If emission reduction targets on the contrary are accepted there is no way back.

Avoiding the costs related to emission reductions can also be seen as the main driving force for China's behavior in the negotiations which has been to maintain a strong and united developing country front and to keep the issue of commitments off the agenda. China has succeeded in rallying the other developing countries to support and defend its positions, in spite of the predictions that many of these countries will suffer the most from

the consequences of climate change (Economy 1997). While differentiation between developed and developing countries has been a key aspect of China's position, differentiated commitments within the developing world have been strongly opposed. This can probably be explained by China's fear of being forced to take on commitments. The developing country solidarity can be put to question as the reason why China tries to remain in a leadership position in the developing world. Knowing that countries which mere existence is threatened by climate change impacts, most notably the AOSIS countries, are also in that group it is definitely not in the whole group's interest to avoid taking a more proactive position. Equity within the developing world does not seem to be equally prominent in China's position.

One of the major developments in China's follow-up behavior is the submission of the Initial National Communication in 2004. In the early stages of negotiations China was skeptical to reporting and monitoring due to sovereignty concerns and limited capacity to carry through reporting. Finally completing the National Communication showed that China care about climate change. The report was released at the annual climate conference (COP-10), securing China a lot of positive attention. China has received substantial amounts of funding to prepare its Initial National Communication. Further prolongation of the process could potentially have increased the image costs of not submitting the Communication. In order to attract future funding it is important to show some results to prove that investments have borne fruit.

6.4.1 Summary

The principal concern of China's climate change policy appears to evolve around possible imposition of commitments to reduce emissions or other obligations. The discussion above can be summed up in six driving forces that can explain China's position and behavior in the climate change regime:

- Sustaining economic development and stability
- Not endanger energy security (which is heavily based on coal)
- Get as much technology and financial transfers as possible
- Avoiding commitments (and the associated costs) to solve a problem that China is not responsible for
- Remain in a leading position in G77/China on climate change in order to legitimize low- commitments position and enhance bargaining leverage
- Showing that China cares about climate change through low cost commitments with high image benefits

Among the explanatory factors discussed, economic interests and the primacy of economic development seem to be most prominent in guiding the direction of China's climate change policy. Both when the state is assumed to act as a unitary actor, and when the different sub-national interests are considered economic development appears to be more important than other factors. Equity concerns are stressed in argumenta-

tion, but are mostly used to legitimize China's low level of proactiveness. As a result of China's emphasis on short term economic development expected costs of reducing emissions exceed the expected benefits of solving the problem.

7 A Predictive Extension of the Empirical Analysis: Future Prospects for Chinese Climate Policy

Developing countries' GHG emissions are increasing more rapidly than those of industrialized countries and will inevitably surpass them in the near future (Kasa 2002). If the climate regime is to be effective in the long run an enhancement of developing country involvement is a precondition. The second part of the main research question focuses on how the factors that have explained China's climate policy in the past will affect China's future climate policy. It is of course not possible to predict future action, it is nevertheless reasonable to assume that the Chinese Government's future policy-making will be determined by at least some of the same factors as in the past. This part of the analysis will thus draw on the findings from the first part in an attempt to make some predictions about China's future climate policy. I have chosen to focus on the possibilities and constraints for China to adopt a *more proactive* response to climate change. It can be argued that this point of departure is a bit too optimistic.⁶⁴ Nevertheless it is highly relevant seeing as China's cooperation is essential in order to establish a more effective regime to combat climate change, and given its huge emissions and its leadership role in the developing world.

In the attempt to say something about China's future climate policy it can be useful to distinguish between *will* and *capacity*, given that willingness to take a more proactive position alone is not sufficient if the necessary capacity to reduce GHG-emissions is lacking (Fermann 1997b: 358). As discussed above, willingness will be influenced by national economic interests related to vulnerability and abatement costs, possibilities to achieve financial and technological transfers, concerns for image and equity. Even though the analysis above showed that the Domestic Politics model provides a good explanation for the outcome of climate policy decision-making in the past, because of the complexity and opacity of the Chinese policy-making process the element of domestic bargaining is left out of from this part of the analysis.⁶⁵ Consequently this part will mainly consider the state as a unitary actor. Looking at the possibilities for China taking a more proactive position, both will and capacity are necessary preconditions. Two different scenarios will be presented below. First, I will outline a business-as-usual scenario focusing on the constraints for China's climate policy to move in a more proactive direction. The second scenario focuses on the opportunities for a more proactive approach in the future.

7.1 Scenario 1: 'Business-as-usual'

How will China's future climate change policy look like if the factors explaining it in the past remain constant? Capacity to reduce GHG-emissions will depend on energy structure, substitution potential and

energy conservation potential (Fermann 1997b: 358). Based on previous chapters China's capacity to move towards a more proactive climate change policy must be characterized as low (see Table1). In Chapter 2 the size of the population, economic growth and energy structure was pointed out as the main causes of China's immense emissions of CO₂. Despite the success of controlling the population size through stringent family planning policies, the Chinese population is projected to reach 1.45 to 1.85 billion by 2020 (Pan 2004:18). Furthermore, the Chinese economy is expected to continue its rapid growth with 7-8% annually (Zhang 2003: 69). As in other developing countries China's energy demands will continue to increase due to necessary development of infrastructure, urbanization and increasing living standards (Kasa 2002: 193).

Table 1: Preconditions for a more proactive climate policy

		Capacity	
		Low	High
Willingness	Low	A	B
	High	C	D

Per capita energy consumption will probably match the current global average by 2020 (Harris and Yu 2005: 49). Even though the Chinese Government has ambitious goals regarding energy substitution (see section 5.1.2), coal will continue to be the dominating energy source. Urbanization, population increase and economic growth are all factors that point in the direction of a continued increase in China's CO₂-emission in the years to come. Although energy efficiency is improving, China still lags far behind the OECD countries when it comes to energy efficiency (Zhou et al. 2000).

As limitation of growth is no alternative for China, technological solutions are necessary to improve the quality of growth. The property rights to most innovations and technological solutions that can pave the way for a more sustainable development are owned by companies in the North and can be very expensive to adopt for developing countries. Therefore they often have to use old, outdated and inefficient technologies when developing new infrastructure. China is still in a rather early stage of industrialization and could potentially 'leapfrog' some of the technological stages of development the industrialized world has been through. However the will to provide developing countries with the necessary technological solutions seems to be limited.

China's negotiating position (as described in Chapter 4) shows that willingness to take on commitments also can be characterized as low. The examination of the external influences showed that US continued rejection of participating in the Kyoto process can be used to justify continuation of a non-commitment approach for China. It is very unlikely that the US (one of China's most important trade partners) will put pressure on

China to take on commitments. In any case it would be difficult to reason any pressure as long as the US is not part of the Kyoto Process.

Even if their active participation is a precondition for an effective effort to combat global climate change, it is likely that developing countries will continue to refuse binding commitments based on development and equity concerns. Rather than providing an incentive for taking on commitments to reduce emissions, new information about vulnerability can just as well lead to a stronger focus on adaptation and financial transfers for adaptation purposes. The recent COPs have witnessed an increased emphasis on adaptation. As long as the Annex-I countries fail to address their own emission reduction commitments, it is probable that the focus on the need for adaptation to climate change impacts for developing countries will increase.

The business-as-usual scenario shows that given China's economic and energy situation it is not likely that the capacity to take a more proactive approach will be increased in the near future. Furthermore it suggests that continuation of limited transfer of resources from developed to developing countries, the US still being on the sideline and the lack of causality between vulnerability and willingness to reduce emissions will rather shift the developing countries' focus from mitigation targets to the need for adaptation. It is indeed unlikely that China will adopt a more proactive climate policy in the near future, following from these factors.

7.2 Scenario 2: Opportunities for a More Proactive Chinese Climate Policy in the Future

In the 'business-as-usual' scenario both willingness and capacity to take a proactive approach remains at today's level which can be characterized as low. This section examines how some possible change in the factors explaining China's past climate policy can contribute to improve willingness and/or capacity and thereby also improve the opportunities for a more proactive Chinese climate policy.

The first opportunity for China's climate change policy to move in a more proactive direction is if vulnerability increases, or at least the awareness of vulnerability. Problems such as flooding or desertification or the increased occurrence of extreme weather events can change the perceptions of vulnerability. If the impacts of climate change become more visible and cause damage that can be observed more directly the problem is likely to get more attention. If expected damage costs are being perceived as a real threat to the economy it is likely that China will take a more cooperative approach. China's possibility to free-ride and let other countries solve the problem will clearly diminish as its emissions increase. This means that if it is truly in China's interest to stop climate change it is necessary for China to change its own behavior. This is likely to provide an even stronger incentive to take action in order to minimize the threat climate change poses to national economic interests.

A second opportunity for a more proactive climate policy is an increased recognition of the potential benefits of reducing GHG-emissions. Since there are no indications that the priority of growth is going to change in

the near future, China's capacity and willingness to take a more proactive approach will thus be dependent on realistic options of reducing emissions without slowing down economic growth, in other words economic growth and growth in emissions have to be decoupled to an even larger degree than today. Even if it is not in China's interest to take on binding commitments it is clearly in its interest to further improve energy efficiency and diversify its energy structure and to reduce air pollution from coal combustion, in order to prevent premature deaths and health problems. This implies that there is potential for reducing Chinese emissions also without any formal commitments, if the positive implications of reducing emissions are better understood.

A further recognition of the potential economic benefits of emission reductions can improve China's willingness to implement such measures. Transfers of necessary technology from the industrialized world can further improve China's capacity to implement a more proactive climate policy. The question is if the North is willing to pay in order to have China play. This will of course be dependent of how urgent the North perceives the climate change problem to be. If it is assumed that the North's interests in combating climate change increases,⁶⁶ capacity building through technology transfers to China could be a cost-effective to contribute to reducing the world's total emissions.

If the influence of promoting a favorable international image is extended beyond leadership in the developing world, for instance to the relationship to the EU it is possible that China would adopt a more proactive approach. This could be due to a split in the 'G77 and China' coalition, or as a consequence of enhanced interaction between China and EU on other issue-areas, like trade. The relationship between China and the EU has been described as a 'growing love affair' (Zakaria 2005). Since the EU is taking a relatively proactive approach, attempts to put pressure on China can be perceived as more legitimate than pressure from the US.

China's increasingly positive attitude toward the CDM can also be seen as providing an opportunity for a more proactive climate policy in the future. CDM projects give China access to technology and thereby increases its capacity. The CDM can also contribute to more attention around the climate change problem in China, and the possible benefits of projects that reduce emissions. More attention can furthermore result in more concern regarding the impacts of unconstrained global warming for China, and thus lead to recognition of China's vulnerability. A final aspect of CDM participation that gives reason for optimism is that interaction on CDM can create a better environment for cooperation on climate change in general. As shown in the previous chapters, the North-South dimension in climate change cooperation has been characterized by conflict, hostility and distrust. If the CDM projects in the future can contribute to create more trust between north and South and thus improve the understanding of sharing a common goal to be promoted through climate change cooperation, it is possibly its most important effect.

7.3 Summary

This chapter has outlined two different scenarios for the future prospects of China's climate change policy. The impression is that its capacity to take a proactive approach is actually more of an obstacle than willingness. It is difficult to imagine how capacity can prove without externally provided resources. It is reasonable the capacity as it is described here will remain at status quo, or maybe increase slowly as a consequence of economic development. As pointed out in the beginning of this chapter both capacity and willingness are necessary conditions for China to be able to choose a more proactive climate policy. Thus it will not be sufficient if only willingness improves. It is therefore not likely that China will adopt a more proactive climate change policy in the near future.

8 Conclusion

8.1 Summary of findings

The objective of this report has been to identify the factors that have influenced Chinese policy-making on climate change in the past and furthermore to find out how these factors are likely to influence climate change policy in the future. China's role is becoming increasingly important in almost every aspect of international relations, and the international politics of climate change is certainly no exception. As highlighted in the previous chapters China can undeniably be characterized as a critical actor for the establishment of effective international climate change cooperation. Its booming economy and rapidly increasing energy demands will make China the world's largest emitter of greenhouse gases within a couple of decades. Furthermore, due to its leading position in the 'G77 and China' coalition China also plays a key role in the international negotiation on climate change. Consequently, understanding the driving forces behind China's climate policy-making is of crucial importance for the future of the global climate.

Three general explanatory models were applied as guidelines for identifying the explanatory factors; the unitary rational actor model (URA), the domestic politics model (DP) and the social learning and ideas model (SLI) respectively. The three approaches were used to establish a set of hypotheses about factors influencing China's climate policy-making. Based on the URA model it was expected that China's policy-makers have a shared mind-set regarding which values are to be maximized when faced with a problem like climate change. Furthermore they are expected to choose the policy option which maximizes the national interests. In this case it was assumed that the costs and benefits calculation guiding policy-making on climate change first and foremost is concerned with national interests defined in economic terms. However, intangible values like a favorable international image will also influence decision-making on engaging in climate change cooperation. Different aspects of economic interests at stake in relation to climate change were considered. The first aspect considered was climate change impacts on China. The second aspect was costs (and possible benefits) of reducing GHG-emissions. The third aspect involved possible benefits of engaging in climate change

cooperation besides costs and benefits related directly to the climate change problem. The fourth explanatory factor based on the URA model was how concern for international image will guide the direction of China's climate policy.

The DP model assumed that states are complex organizations rather than unitary actors, where climate policies are formed through bargaining between sub-national actors. These actors have diverging perceptions both of which choices that are maximizing national benefits and which values that are to be maximized with regards to the climate change problem. The hypothesis based on the DP model suggests that China's climate policy will be influenced by the interests and preferences as well as the distribution of power and influence between the bureaucratic actors involved in decision making on climate change and other related issue-areas.

The SLI model also considers actors as rational. However their interests and preferences are understood as tentative and the SLI model focuses on how they develop through learning processes by the introduction of new knowledge or under the influence of international norms related to climate change cooperation. Based on this model, influence of knowledge and norms were suggested as explanatory factors.

The empirical analysis showed that China's climate policy behavior first and foremost is motivated by economic considerations similar to most other states. China's interests are however heavily influenced by China's position as a developing country. The inquiry based on the URA model showed that both expected damage costs and costs of abatement can be characterized as high. In the long run, climate change impacts can have serious negative effects on China's economic development. At the moment however, the potential costs of emission reductions are considered more urgent. For all states, and in particular for developing countries, short term costs tend to carry more weight than uncertain future costs, even if the latter are potentially bigger. Related to environmental problems this often results in a 'develop now – clean-up later' behavior. Thus the influence of expected abatement costs was deemed as more important in explaining China's climate policy than vulnerability. The possibility to further promote economic growth and get access to technology through engaging in cooperation is the main motivating factor for China's increasingly positive attitude towards the CDM. Concerns about image have worked both ways, depending on the audience. So far the pressure from the more proactive parties such as the EU has been limited and the image costs of taking a low-commitment approach has been rather low. China's emphasis on maintaining a united 'G77 and China' coalition can be explained as an attempt to further reduce the image costs of not taking commitments.

The Domestic Politics model demonstrated that bureaucratic bargaining can explain why China has not taken a more proactive course of action despite being highly vulnerable. The most powerful actors in domestic climate change politics are also the ones that prefer a cautious climate policy without major policy adjustments. Development was shown to be a main driving force also in this model. The SLI model further elaborates

that the domestic actors involved in cooperation with foreign scientists are likely to be the most proactive ones. There has been a large degree of diffusion of knowledge from the international scientific community on climate change to the Chinese scientific community. The proactive attitude is more prominent among actors like SEPA and CMA which have close ties to international research environments. It was however questionable if the differences in proactiveness between the bureaucratic actors could be ascribed to different levels of learning. The SLI model furthermore showed that China's uncooperative behavior can be explained by equity concerns. However, equity concerns and economic interests are difficult to separate.

The predictive part of the analysis outlined two different scenarios for China's future climate policy. Given the expected increase in energy demand and the limited capacity to substitute coal with other sources of energy, it is not likely that China will accept binding emission reduction targets in the near future. However, increasing recognition and priority of local pollution problems and ambitious energy efficiency goals provide promising avenues for a further decrease in carbon intensity. Emissions will continue to grow, but the ratio between growth in GDP and emissions is likely to improve. China's involvement in CDM projects can also provide much-needed technology and foreign investments in emission reduction activities. Another promising aspect of the CDM is that it is creating a better environment for cooperation, and may potentially contribute to confidence building between North and South. Discussing the different factors in a future perspective contributed to further elucidate their influence on China's past and present climate policy. Limited capacity to take a more proactive approach was pointed out as an equally severe constraint, if not more severe than the lack of willingness to do so. This highlights the need for capacity building in developing countries as a means to involve them more actively in the efforts to combat global climate change.

Notes

¹ Some observers have commented that 'the real value of the Kyoto Protocol lies not in its direct impact on limiting greenhouse gas levels, but rather in serving as a precedent for concerted and coordinated global action on climate change' (ENB 2001: 16). Others have argued that Kyoto is a dead end in the efforts to save the climate (e.g. Alfsen and Holtmark 2005).

² After the US rejection of the Kyoto Protocol there has been a lot of focus on how to get the US back on the Kyoto track, however, there are no indications that this will happen in the near future. At the tenth Conference of the Parties (COP-10) in Buenos Aires (2004) the representative from the Bush Administration clarified that the US would not change its negative attitude towards the Kyoto Protocol and that discussions about a future regime were 'premature' (Brouns et al 2004).

³ See for instance Ringius (1997): Identifying and selecting significant, less significant and insignificant actors in global climate change negotiations.

⁴ In 1997 China's per capita emissions were 0.7 tons of CO₂ (Zhang 1999a).

⁵ China's huge emissions can not be explained by the size of the population alone. India's population is growing rapidly and is likely to surpass the size of the Chinese population in the near future. The Indian emissions are also increasing, but are still only accounting for 3.6% of the world's total emissions (Zhang 1998: 3).

⁶ The G77 was established in 1964 at the first United Nations Conference on Trade and Development (UNCTAD) held in Geneva. Its name reflects the original number of countries who subscribed to the Joint Declaration of Developing Countries issued at the end of the conference. The G 77 is not a policy-making body, its function is rather to coordinate the viewpoints of the members to increase developing country representation and enhance the groups influence on international negotiations (Williams 1997)

⁷ However, the GHG emissions from the developing countries are becoming increasingly significant. Within the year 2020 developing countries are expected to contribute with the largest share of total GHG emissions. The increased emissions will to a large extent be a result of increasing energy consumption and higher standards of living, as results of economic growth and industrialization (Kasa 2002).

⁸ China Climate Change Info-net at www.ccchina.gov.cn/english

⁹ This is both due to complexity and the control of information.

¹⁰ Interview with Georg Børsting, (Norwegian Delegate to the climate change negotiations), Oslo 17 March 2005

¹¹ IPCC's next major report will be completed in 2007 (ipcc.ch 2005)

¹² This is both because the severity of the environmental deterioration has compelled them to do so and because the leadership now has realized the great costs attached to environmental destruction.

¹³ In 1998 energy consumption in China was distributed between different sources as follows: Coal 71 percent, petroleum 20 percent, natural gas 2 percent and hydropower 7 percent (China Statistical Yearbook 1999 in Zhou et al 2000).

¹⁴ China's total proven coal reserves are at least one trillion tons (the estimated reserves are five trillion tons), which is enough to cover the current demand for another 750 years! (Zhou et al 2000:5).

¹⁵ China has replaced Japan as the second largest oil consumer in the world.

¹⁶ Today only 20 out of 1000 people own a car in China (Pan 2004).

¹⁷ Energy demand is projected to reach 3.1 billion tons of coal equivalent (tce) in 2020 (Pan 2004:18).

¹⁸ The energy consumption for every 10,000 Yuan of GDP is expected to drop by 16 percent by 2010, from 2.68 tons of coal equivalent in 2002 to 2.25 tons. By 2020 the average consumption are expected to be further reduced to 1.54 tons of coal equivalent, a 43 percent drop from the 2002 level (China Daily 2004).

¹⁹ The labels of the three models are borrowed from Søfting (2000). Underdal (1998) presents three similar models, but labels them differently.

²⁰ This approach is inspired by Underdal (1997:10-15) who specifies six different policy dimensions in order to make a meaningful comparison of climate policy positions.

²¹ For studies on implementation of CDM in China see Wei et al (2004); Zhang (2004)

²² Foreign policymakers operate '...in highly complex external and domestic environments. These contexts offer both opportunities and constraints, and policy

makers have to respond to them constantly by making choices, all the time trying to advance their nations' interests, however they define them' (Holsti 1995:252).

²³ This model is inspired by Graham Allison's (1971) rational actor model or 'classical model' used in his classical work on foreign policy decision-making, *Essence of Decision: Explaining the Cuban Missile Crisis*.

²⁴ For most countries costs are much more important than benefits when it comes to climate change. The costs have to be paid immediately while mostly future generations will be able to reap the benefits.

²⁵ Even though there is a consensus about the existence of human-induced climate change, there are still scientific uncertainty regarding causes, consequences, timeframes and the magnitude of the problem.

²⁶ At the same time the industrialized democracies in the West, headed by the United States, made an active effort to isolate and contain China (Oksenberg and Economy 1999: 2-4). China's diplomatic relations were mostly with other developing countries in Asia and Africa. It was rather difficult for foreigners to travel China as well as for Chinese to go abroad (ibid.).

²⁷ As pointed out by Barkdull and Harris (2002:71) '[i]nterest-based theory assumes that interests can be identified by the analyst *a priori*', since we assume the state will act as a unitary rational actor maximizing benefits and minimizing costs.

²⁸ To open up the 'black box' of domestic politics immediately makes the picture much more complex, but probably also gives a more realistic illustration than the URA model. However, there are different interests also within a bureaucratic unit, thus the DP model also provides a simplified picture of reality (as all models do by definition).

²⁹ Many large coal companies are still state-owned enterprises. In others high rank officials in the Communist Party have strong ownership interests (see Rowlands 1995). Consequently business interests will not be further inquired.

³⁰ The National Climate Change Coordination Committee includes officials from 15 ministries and agencies (China Climate Change Info-Net 2005).

³¹ Hence the SLI model may provide a more optimistic view of the future.

³² Sjøfting (2000) suggests that this has been the case in Germany

³³ This has been the case in for instance India (Sprinz and Weiss 2001)

³⁴ 'Equity – whether grounded in philosophy, morality, or human nature – is an ideal that shapes our view of what is right or just' (Ashton and Wang 2003:63).

³⁵ When the Convention was drafted developing countries and China in particular insisted on a separate article on general principles

³⁶ This refers to the adequacy of article 4.2 (a) and (b) in the FCCC.

³⁷ 'The FCCC [...] exemplifies the practice in recent international environmental agreements of adopting a framework or umbrella convention, providing for general cooperation in the area, in anticipation of subsequent, more specific supplementary agreements (frequently called protocols) that will establish more concrete obligations' (Chayes and Kim 1998: 506).

³⁸The JUSCANZ countries are Japan, United States, Canada, Australia and New Zealand.

³⁹The original Protocol was adjusted to make a compromise that could secure participation of the US, Japan, Russia and Canada, and as we know these efforts did not succeed in the case of the US (Johansen 2002:4).

⁴⁰ This trend could also be observed at COP-8 where the Indians used much more harsh language than the Chinese (Børsting 2005 [interview]).

⁴¹ Personal communication with Gørild Heggelund, Lysaker March 2005.

⁴² Interview with Georg Børsting, Oslo March 2005

⁴³ Interview with Georg Børsting, Oslo March 2005

⁴⁴ Interview with MOFA official, Beijing November 2004.

⁴⁵ Together with Asian financial crisis and domestic reforms (Zhou et al 2000).

⁴⁶ See NCCCC (2001) for more specified numbers.

⁴⁷ The agricultural sector share fell from 30 per cent in 1980 to 20 per cent in 1995, accompanied by a similar rise in the service sector share (see for instance Zhang. X 1999:74).

⁴⁸ Energy consumption is expected to increase by 3.97% annually in the period 1998-2020 compared to a 7.2% growth in GDP (Pan 2004: 18).

⁴⁹ See Chapter 2.

⁵⁰ For a comprehensive overview of mitigation options in China see ALGAS (1998).

⁵¹ Coal sources are not evenly distributed and transport for some places can be very costly. The coal shortage is also due to close-down of small, inefficient coal-mines with a lack of safety control (Mai 2005).

⁵² Reforestation and afforestation to increase carbon sequestration and thereby improve the sink capacity is another way China can contribute to limit anthropogenic CO₂-emissions. According to the ALGAS study there is a large potential to increase carbon sinks in China. If forest cover is doubled to 23%, the total available carbon sink potential is estimated to 4.3 billion tons carbon. This is feasible since the total available land for forestry use in China is estimated at 27%-28% of the total land area (ALGAS 1998). However, investment costs for reforestation and afforestation are relatively high, and 'financial limitations are the most serious barrier'. Co-benefits of increasing forest cover must be taken into consideration, reforestation and afforestation help to fight soil erosion and desertification and forestry programs generate rural employment and income (ALGAS 1998: 102-103).

⁵³ The first Chinese CDM project officially approved was the Inner Mongolia Huitengxile Wind Farm Development Project (Zhang 2004: 10). The investor is CERUPT, the Dutch Government's CDM credit procurement program. The second project is the Xiaogushan hydropower plant project and the investor is the Prototype Carbon Fund of the World Bank (World Bank 2004).

⁵⁴ A note on the text: Due to a major government restructuring process in 1998, most of China's ministries were renamed, and thus operate under two different names in the text. See list of abbreviations for details.

⁵⁵ The change signifies the increased attention given to environmental matters. Another indication of the growing consideration given to environmental protection is that SEPA did not suffer big reduction in staff when the central government bureaucracy was drastically reduced in 1998 (Wang 2002).

⁵⁶ Lu Xuedu from MOST has been a driving force in China's involvement in the CDM. He has also been a member of the CDM executive board. (Personal communication with Gørild Heggelund 2005)

⁵⁷ See section 4.1.

⁵⁸ Stated in the Stockholm 1972 Declaration (e.g. Zhang 2003:80)

⁵⁹ Liu Jiang was also leader of the Chinese delegation to COP-10

⁶⁰ See Section 4.3.

⁶¹ In most cases it is the other way around; reduction of CO₂-emissions is a co-benefit of energy efficiency and energy conservation. This is because these measures are rarely motivated by climate reasons.

⁶² See Zhang (1998): *Can China Afford to Commit itself an Emission Cap?*

⁶³ See Heggelund (2005) for a discussion on CDM and equity.

⁶⁴ As stated in chapter 4, there are no indications of a change in the Chinese position on emission reduction commitments in the near future.

⁶⁵ Since climate change is regarded more as a development issue than an environmental issue in China it is in any case very likely that NDRC will continue to have the main responsibility for climate change policy-making, and also to be the most influential domestic actor within the issue-area.

⁶⁶ This could be caused by for instance an increased occurrence of extreme weather events in these countries.

Bibliography

- Agence France Presse (2004): 'China Facing Increasing Pressure to Reduce Greenhouse Gas Emissions' in Agence France Presse English 11.11.2004.
- Agrawala, Shardul and Steinar Andresen (2001): 'Two Level Games and the Future of the Climate Regime' in *Energy & Environment* Vol. 12, No. 2&3.
- Alfsen, Knut H. and Bjart Holtsmark (2005): Kyoto-avtalen – et feiltrinn? In *Cicerone* 2/2005.
- ALGAS (1998): Asia Least-cost Greenhouse Gas Abatement Strategy – People's Republic of China. Manila: Asian Development Bank.
- Allison, Graham (1971): *Essence of Decision: Explaining the Cuban Missile Crisis*. Boston: Little Brown and Company.
- Ashton, John and Xueman Wang (2003): 'Equity and Climate: In Principle and Practice' in *Beyond Kyoto: Advancing the International Effort Against Climate Change*. Arlington, VA: Pew Center on Global Climate Change.
- Baker, Peter (2004): 'Russia Backs Kyoto to Get on Path to Join WTO' in *Washington Post* 22.05.2004 available at www.washingtonpost.com/wp-dyn/articles/A46416-2004May21.html.
- Bang, Guri, Gørild Heggelund and Jonas Vevatne (2005): *Shifting Strategies in the Global Climate Negotiations*, Joint Report by FNI and CICERO, FNI Report 6/2005/CICERO Report 2005:08, Lysaker. Oslo.
- Bang, Guri, Gørild Heggelund and Jonas Vevatne (2005): 'Shifting Alliances: Help or Hindrance to Building a Global Climate Regime?' Paper presented at Den nasjonale fagkonferansen i statsvitenskap 2005, Hurdalssjøen. Available at www.statsvitenskap.uio.no/konferanser/nfkis/ip/Vevatne-Bang-Heggelund.pdf.
- Bang, Guri (2004): *Sources of Influence in Climate Change Policymaking: A Comparative Analysis of Norway, Germany, and the United States*. Dr. Polit thesis submitted to the Department of Political Science, University of Oslo, June 2004.
- Barkdull, John and Paul G. Harris (2002): Environmental Change and Foreign Policy: A Survey of Theory in *Global Environmental Politics* 2:2, May 2002 pp 63-91.
- Baumert, Kevin A., Ruchi Bhandari and Nancy Kete (1999): 'What might a Developing Country Climate Commitment Look Like?' *Climate Notes*. World Resources Institute.
- BBC (2005): 'US Agrees Climate Deal with Asia' Available at: <http://news.bbc.co.uk/1/hi/sci/tech/4723305.stm>.
- Beuermann, Christine (1997): 'China and Climate Change' in G. Fermann (ed.) *International Politics of Climate Change*. Oslo: Scandinavian University Press.
- Bolin, Bert (1997): 'Scientific Assessment of Climate Change', in Gunnar Fermann (ed.) *International Politics of Climate Change*. Oslo: Scandinavian University Press pp 83-109.

- Brouns, Bernd, Hermann Ott, Wolfgang Sterk and Bettina Wittneben (2004): *'It Takes Two to Tango' US Stalls as EU Awaits a Change of Heart at the Climate Conference in Buenos Aires*. Wuppertal Institute.
- Buen, Jørund (1998): China's Energy-Environmental Dilemma – Strategies and Framework Conditions', *Forum for Development Studies*. No. 1 pp 163-204 available at www.hf.ntnu.no/itk/sts_buen/Forum.PDF.
- Børsting, Georg and Gunnar Fermann (1997): 'Climate Change Turning Political' in Gunnar Fermann (ed.) *International Politics of Climate Change*. Oslo: Scandinavian University Press pp 53-82.
- CCASIA (2004): China Country Profile at Climate Change in Asia website: www.ccasia.teri.res.in/country/china/china.htm.
- CCCIN (2003): 'Climate Change and its Impacts on China's Agriculture' from China Climate Change Info-Net at www.ccchina.gov.cn/english/source/fa/fa2003082504.htm.
- CCCIN (2004): 'Global Warming Fears for Chinese Crops', from China Climate Change Info-Net at www.ccchina.gov.cn/english/source/aa/aa2004091301.htm.
- Chandler, William et al. (2002): *Climate Change Mitigation in Developing Countries: Brazil, China, India, Mexico, South Africa, and Turkey*. Report prepared for the Pew Center on Global Climate Change.
- Chayes, Abram and Charlotte Kim (1998): 'China and the United Nations Framework Convention on Climate Change' in M. B. Elroy, C. P. Nielsen and Peter Lydon (eds.) *Energizing China: Reconciling Environmental Protection and Economic Growth*. Newton, MA: Harvard University Press, pp 503-540.
- Checkel, Jeffrey T. (1998): 'The Constructivist Turn in International Relations Theory', in *World Politics*, Vol. 50, January.
- China Daily (2004): 'Energy Conservation, Efficiency Highlighted' from China Daily online 29.12.2004.
- China Daily (2005a): 'Changing Views on Change Climate' in *China Daily* online 05.03.2005.
- China Daily (2005b): 'China Continues to Cut Emissions' in *China Daily* online 17.02.2005.
- Depledge, Joanna (2005): *The Organization of Global Negotiations: Constructing the Global Climate Change Regime*. London/Sterling: Earthscan.
- DeSombre, Elizabeth R. (2000): 'Developing Country Influence in Global Environmental Negotiations' in *Environmental Politics*. Vol. 9, No. 3. pp 23-42.
- Earth Negotiations Bulletin (1995): 'Summary of the First Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 21.
- Earth Negotiations Bulletin (1996): 'Summary of the Second Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 38.

- Earth Negotiations Bulletin (1997a): 'Summary of the Third Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 76.
- Earth Negotiations Bulletin (1997b): 'Report of the Meetings of the FCCC Subsidiary Bodies' Vol. 12, No. 66.
- Earth Negotiations Bulletin (1998): 'Summary of the Fourth Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 97.
- Earth Negotiations Bulletin (1999): 'Summary of the Fifth Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 123.
- Earth Negotiations Bulletin (2001): 'Summary of the Seventh Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 189.
- Earth Negotiations Bulletin (2002): 'Summary of the Eighth Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12, No. 209.
- Earth Negotiations Bulletin (2003): 'Summary of the Ninth Conference of the Parties to the UN Framework Convention on Climate Change', Vol. 12; No. 231.
- Economy, Elizabeth (1994): *Negotiating the Terrain of Global Climate Change Policy in the Soviet Union and China: Linking International and Domestic Decision-making Pathways*. PhD Thesis. Michigan: University of Michigan.
- Economy, Elizabeth (1997): 'Chinese Policy-making and Global Climate Change: Two-front Diplomacy and the International Community' in M. A. Schreurs and E. Economy (eds.): *The Internationalization of Environmental Protection*. Cambridge: Cambridge University Press. pp 19-41.
- Economy, Elizabeth and Michel Oksenberg (1999): *China Joins the World: Progress and Prospects*. New York: Council of Foreign Relations Press.
- Economy, Elizabeth (2001): 'The Impact of International Regimes on Chinese Foreign Policy Making: Broadening Perspectives and Policies... But only to a Point' in D.M. Lampton (ed.) *The Making of Chinese Foreign and Security Policy in the Era of Reform*. Stanford, Calif.: Stanford University Press, pp 230-253.
- Fang, Dong, Debra Lew, Li Ping, Daniel M. Kammen and Richard Wilson (1998): 'Strategic Options for Reducing CO₂ in China: Improving Energy Efficiency and Using Alternatives to Fossil Fuels' in M. B. Elroy, C. P. Nielsen and P. Lydon (eds.) *Energizing China: Reconciling Environmental Protection and Economic Growth*. Newton, MA: Harvard University Press, pp 119-166.
- FCCC (1992): UN Framework Convention on Climate Change. Available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>.
- Fermann, Gunnar (1997a): 'The Requirement of Political Legitimacy: Burden-sharing Criteria and Competing Conceptions of Responsibility', in G. Fermann (ed.) *International Politics of Climate Change*. Oslo: Scandinavian University Press, pp. 179-92.

- Fermann, Gunnar (1997b): 'Political Leadership and Climate Change: The Prospects of Germany, Japan and the United States', in G. Fermann (ed.) *International Politics of Climate Change*. Oslo: Scandinavian University Press, pp. 341-405.
- Fermann, Gunnar (2001): Verktøy i studiet av utenrikspolitikk: begreper, distinksjoner, illustrasjoner. Chapter 8 in J. Hovi and R. Malnes (eds.) *Normer og makt: Innføring i internasjonal politikk*. Oslo: Abstrakt Forlag.
- Glomsrød, Solveig (2002): 'Et renere og rikere Kina?' *SSB Økonomiske analyser* 3/2000.
- Good, Len.: (2004): 'Global Environment Facility, Some Thoughts on Environment and Development', speech at the China Council for International Cooperation on Environment and Development, 2004 Annual General Meeting, Beijing, October 29.
- Guan, Xiaofeng (2004): 'Law on Renewable Energy in Pipeline' in *China Daily* 21.10.2004.
- Gupta, Joyeeta (1997): *The Climate Change Convention and Developing Countries: From Conflict to Consensus*. Dordrecht: Kluwer Academic Publishers
- Gupta, Joyeeta (1999): 'Evaluation of the Climate Change Regime and Related developments' in *Yearbook of International Cooperation on Environment and Development 1999/2000*. London: Earthscan pp 19-30.
- Haas, Peter M. (1993): 'Epistemic Communities and the Dynamics of International Environmental Cooperation', in V. Rittberger (ed.) *Regime Theory and International Relations*. Oxford: Clarendon Press.
- Harris, Paul G. and Hongyuan Yu (2005): 'Environmental Change and the Asia Pacific: China Responds to Global Warming' in *Global Change, Peace and Security*, Vol. 17, No. 1, February 2005.
- Harris, Paul G. (ed.) (2003): *Global Warming and East Asia: the Domestic and International Politics of Climate Change*. London and New York: Routledge.
- Hatch, Michael T. (2003): 'Chinese Politics, Energy Policy, and the International Climate Change Negotiations' in Harris, P. G. (ed.) *Global Warming and East Asia: the Domestic and International Politics of Climate Change*. London and New York: Routledge. pp 43-65.
- Heggelund, Gørild (2005): 'What are the Domestic and International Developments in China's Climate Change Policymaking?' Paper presented at the 46th ISA Conference, Hawaii, 2-5 March 2005-02-25.
- Heggelund, Gørild, Kristian Tangen and Hu Tao (2000): 'Climate Policies in China: Institutional Setting and the Potential for the CDM' *FNI Report 12/200*.
- Heggelund, Gørild, Steinar Andresen and SunYing (2005): 'Performance of the Global Environmental Facility (GEF) in China: Achievements and Challenges as Seen by the Chinese', *International Environmental Agreements: Politics, Law and Economics* (IEA), 5: 323-348.

- Holsti, K. J. (1995): *International Politics: A Framework for Analysis*. New Jersey: Prentice-Hall International.
- Ippc.ch (2005): 'Mandate and Membership of the IPCC' from the IPCC website at www.ipcc.ch/about/about.htm.
- IPCC (2001a): *Climate Change 2001: Impacts, Adaptation and Vulnerability*, IPCC Third Assessment Report downloaded from www.grida.no/climate/ipcc_tar/wg2/index.htm
- IPCC (2001b): *Climate change 2001: Mitigation*, IPCC Third Assessment Report downloaded from www.grida.no/climate/ipcc_tar/wg3/index.htm.
- IPCC (2001c): *Climate Change 2001: Synthesis Report*. Summary for Policymakers. Available at www.ipcc.ch/pub/un/syren/spm.pdf.
- Johansen, Vegard (2002): *USA i det globale drivhuset. Hvorfor sier USA nei til å ratifisere Kyoto-protokollen? – Tre tilnærminger*. Trondheim: Master Thesis submitted to NTNU, Institutt for sosiologi og statsvitenskap.
- Johnston, Alastair I. (1998): 'China and International Environmental Institutions: A Decision Rule Analysis' in M. B. Elroy, C. P. Nielsen and Peter Lydon (eds.) *Energizing China: Reconciling Environmental Protection and Economic Growth*. Newton, MA: Harvard University Press. pp 555-599.
- Kasa, Sjur (2002): 'U-landene i det globale drivhuset' Chapter 8 in T. Benjaminsen og H. Svarstad (eds.) *Samfunnsperspektiver på Miljø og Utvikling*, Oslo: TANO Aschehoug, pp 189-209.
- Kobayashi, Yuka (2003): 'Navigating between "Luxury" and "Survival" Emissions: Tensions in China's Multilateral and Bilateral Climate Change Diplomacy' in Paul G. Harris (ed.) *Global Warming in East Asia. The Domestic and International Politics of Climate Change*. London/New York: Routledge.
- Kyoto Protocol (1997): Kyoto Protocol to the United Nations Framework Convention on Climate Change. Available at <http://unfccc.int/resource/docs/convkp/kpeng.html>.
- Lieberthal, Kenneth and Michel Oksenberg (1988): *Policy Making in China: Leaders, Structures and Processes*. Princeton, NJ: Princeton University Press.
- Liu Jiang (2005a): 'Speech made by Mr. Liu Jiang, Deputy Director of the National Development and Reform Commission, at the High Level Forum for the "Celebration of the Entry into Force of the Kyoto Protocol"', 16 February 2005, Beijing, China. Available at www.ccchina.gov.cn/english/source/aa/aa2005021702.htm.
- Liu Jiang (2005b): 'The Challenge of Climate Change and China's Response Strategy' Keynote speech on the Round Table Meeting of Energy and Environment Ministers from Twenty Nations. Available at www.ccchina.gov.cn/english/source/ba/ba2005032401.htm.
- Mai, Tian (2005): 'Coal Shortages Could Worsen This Year' in *China Daily*, January 28, 2005.
- Malik, Khalid (2005): 'Speech for the Celebration of the Entry into Force of the Kyoto Protocol' given by UNDP Resident Representative

- Khalid Malik, 16 February 2005, Beijing, China. Available at www.ccchina.gov.cn/english/source/aa/aa2005021701.htm.
- Müller, Benito (2005): 'Quo Vadis, Kyoto? Pitfalls and Opportunities' Key Note, presented at the Civil Society Outreach of the G8 meeting of Environment and Development Ministers 17-18 March 2005, Derby, UK. Available at www.oxfordclimatepolicy.org.
- Najam, Adil, Saleemul Huq and Youba Sokona (2003): 'Climate Change Negotiations beyond Kyoto: Developing Countries Concerns and Interests' in *Climate Policy* 3 (2003), pp 221-231.
- National Communication (2004): The People's Republic of China Initial National Communication on Climate Change. Executive Summary. Beijing, October 2004.
- NCCCC (2001): 'China and Global Climate Change' by Office of National Coordination Committee for Climate Change People's Republic of China available at www.ccchina.gov.cn/english/source/ga/ca2003011801.htm.
- New York Times (2004): 'China Pledges to Use more Alternatives to Oil and Gas' NY Times 5 June 2004. Available at www.energybulletin.net/484.html.
- Pan, Jiahua (2004): 'China's Industrialization and Reduction of Greenhouse Emissions' in *China & World Economy*. Vol. 12, No. 3, 2004, pp 17-25.
- Pew Center (2002): 'COP-8 Summary' Available at www.pewclimate.org/what_s_being_done/in_the_world/cop_8_india/.
- Pew Center (2003): 'COP-9 Summary' Available at www.pewclimate.org/what_s_being_done/in_the_world/cop9/summary.cfm.
- Pew Center (2004): 'COP-10 Summary' Available at www.pewclimate.org/what_s_being_done/in_the_world/cop10/summary.cfm.
- Richards, Michael (2003): *Poverty Reduction, Equity and Climate Change: Global Governance Synergies or Contradictions?* London: Overseas Development Institute.
- Ringius, Lasse (1997): Identifying and Selecting Significant, Less Significant and Insignificant Actors in Global Climate Change Negotiations, CICERO Working Paper 1997:6.
- Rosendal, G. Kristin (1999): Implementing International Environmental Agreements in Developing Countries: The Creation and Impact of the Convention on Biological Diversity. PhD dissertation in Political Science, Oslo: University of Oslo.
- Rowlands, Ian H. (1995): 'Explaining National Climate Change Policies' in *Global Environmental Change*, Vol. 5, No. 3, pp 235-249.
- Saich, Tony (2001): *Governance and Politics of China*. Palgrave, New York.
- Søfting, Guri Bang (2000): *Climate Change Policymaking – Three Explanatory Models*. CICERO Working Paper 2000:6.
- Sprinz, Detlef F. and Tapani Vaahtoranta (1994): 'The Interest-based Explanation of International Environmental Policy' in *International Organization*, Vol. 4, No.1, pp 77-105.

- Sprinz, Detlef F. and Tapani Vaahtoranta (2002): 'National Self-interest: a Major Factor in International Environmental Policy Formulation' in Mostafa K. Tolba (ed.) *Encyclopedia of Global Environmental Change*. Vol. 4, pp 323-328. Chichester: John Wiley & Sons, Ltd.
- Sprinz, Detlef F. and Martin Weiss (2001): 'Domestic Politics and Global Climate Policy' in Urs Luterbacher and D. F. Sprinz (eds.): *International Relations and Global Climate Change*. Cambridge; MA: MIT Press. Ch. 4.
- Tangen, Heggelund and Buen (2001): 'China's Climate Change Positions: At a Turning Point?'. *Energy & Environment*, Vol. 12, Nos. 2&3, 2001, pp 237-251.
- Underdal, Arild (1984): 'Can We, in the Study of International Politics, do without the Model of the State as a Rational, Unitary Actor? A Discussion of the Limitations and Possible Fruitfulness of the Model, and its Alternatives'. *Internasjonal Politikk*, Temahefte 1. p 63-79.
- Underdal, Arild (1997): Modeling the International Climate Change Negotiations: A Non-technical Outline of Model Architecture. CICERO Working Paper 1997:8.
- Underdal, Arild (1998): 'Explaining Compliance and Defection: Three Models'. *European Journal of International Relations*. Vol. 4, No. 1.
- US Embassy (2003): China Pursues Kyoto Protocol's Clean Development Mechanism. A January 2003 report from US Embassy, Beijing.
- White, Brian (1989): Understanding Foreign Policy: the Foreign Policy Systems Approach. Aldershot: E. Elgar.
- Williams, Marc (1997): 'The Group of G77 and Global Environmental Politics' in *Global Environmental Change*, Vol. 7, No 3. pp 295-298.
- World Bank (2004): Clean Development Mechanism in China. Taking a Proactive and Sustainable Approach. Washington, DC: World Bank.
- Wu, Baozhong, Fan Yuansheng, He Kebin and Zhao Weijun (1998): 'The Status and Trend of China's Policies on Climate Change' in M. B. Elroy, C. P. Nielsen and Peter Lydon (eds.) *Energizing China: Reconciling Environmental Protection and Economic Growth*. Newton, MA: Harvard University Press. pp 541-554.
- Xinhua (2004): 'National Policy Suggested on Climate Change' from Xinhua News Agency 06.06.2004 from www.china.org.cn/english/2004/jun/97493.htm.
- Yao, Wijie (2002): 'China's Warming Climate Worries Experts', article from *Science Times* translated to English for china.org.cn, available at www.china.org.cn/english/2002/May/33513.htm.
- Yin, Robert K. (1994): *Case Study Research. Design and Methods*. London: Sage Publications. Second Edition.

- Zakaria, Fareed (2005): 'Does the Future Belong to China?' in *Newsweek*, May 9 Issue, available at www.msnbc.msn.com/id/7693580/site/newsweek/.
- Zhao, Jimin and Leonardo Ortolano (2003): 'The Chinese Government's Role in Implementing Multilateral Environmental Agreements: The Case of the Montreal Protocol'. *The China Quarterly*, No. 175.
- Zhang, Zhihong (2003): 'The Forces behind China's Climate Change Policy: Interests, Sovereignty, Prestige' in Harris, P. G. (ed.) *Global Warming and East Asia: the Domestic and International Politics of Climate Change*. London and New York: Routledge, pp 66-85.
- Zhang, ZhongXiang (1998): Can China Afford to Commit Itself an Emission Cap? An Economic Analysis. Working paper. University of Groningen.
- Zhang, ZhongXiang (1999a): 'The Role of China in Combating Global Climate Change' in *The Brown Journal of World Affairs*. Summer/Fall 1999, Vol. VI, Issue 2, pp 63-76.
- Zhang, ZhongXiang (1999b): 'Is China Taking Actions to Limit its Greenhouse Gas Emissions? Past Evidence and Future Prospects' *Trends & Baseline*, pp 45-58,
- Zhang, ZhongXiang (2004): Towards an Effective Implementation of CDM Projects in China. East-West Center Working Papers: Environmental Change, Vulnerability, and Governance Series. No. 61.
- Zhou, Dadi, Shi Yingyi, Guo Yuan, William Chandler and Jeffrey Logan (2000): *Developing Countries & Global Climate Change: Electric Power Options in China*, report prepared for the Pew Center on Global Climate Change.

The Fridtjof Nansen Institute is a non-profit, independent research institute focusing on international environmental, energy, and resource management. The institute has a multi-disciplinary approach, with main emphasis on political science, economics, and international law. It collaborates extensively with other research institutions in Norway and abroad.



FRIDTJOF NANSENS INSTITUTT – THE FRIDTJOF NANSEN INSTITUTE

**Fridtjof Nansens vei 17, P. O. Box 326, NO-1326 Lysaker, Norway
Phone: (47) 67 11 19 00 – Fax: (47) 67 11 19 10 – E-mail: post@fni.no
Website: www.fni.no**