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Governing Carbon:

China in Global Climate Politics

Szu-hung Fang
International Relations
Submitted for the Degree of Doctor of Philosophy
University of Sussex, December 2012

I hereby declare that this thesis has not been and will not be submitted in whole or in part to another University for award of any other degree.

Signature.....

Summary:

University of Sussex

Department of International Relations

Szu-hung Fang

Submitted for the Degree of Doctor of Philosophy

Governing Carbon: China in Global Climate Politics

The aim of this thesis is to examine the dynamics of China's engagement with global climate change. After critically reviewing mainstream neo-realist and neo-liberal institutionalist approaches to International Relations and climate change, the thesis develops a revised governmentality framework based on a critical engagement with critical IPE and Foucauldian approaches. This provides the basis for an analytical framework focusing on four distinct 'rationalities of government' in China's climate change politics and governance, which are sovereignty, development, market and the environment. The genealogical examination of these four governmental rationalities has demonstrated the dynamics among them and the relations of state/society/party in China. By applying this analytical framework, the thesis critically examines two distinctive fields of China's climate change politics: international politics and the Clean Development Mechanism in China. The thesis argues that although neo-liberal governmentality appears dominant in global climate politics, the case study of China reveals different dynamics in which the rationalities of sovereignty and development have played the more influential roles. By contrast, the market rationality has been instrumentalised in China for the pursuit of economic growth and the environmental rationality has been marginalised. The thesis contends that the uneven relations among these rationalities have to be grasped through historical and contextual exploration. Different paths and mentalities of state formation and modernisation have had significant influences on China's politics and governance of climate change in both international and domestic levels. The findings from this research help to explain the changes and continuities in China's positions in international climate negotiations, in its regulation of the carbon market, and in the formation of climate knowledge and mentalities under the rule of the Communist Party.

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Abbreviations

AAU—Assigned Amount Unit (of the *Protocol*)
 ADB—Asian Development Bank
 AIDS—Acquired Immune Deficiency Syndrome
 AOSIS—Alliance of Small Island States
 APP—Asia-Pacific Partnership on Clean Development and Climate
 BAU—Business as Usual
 CAN—Climate Action Network
 CASS—Chinese Academy of Social Science
 CCFE—Chicago Climate Futures Exchange
 CCX—Chicago Climate Exchange
 CEIT—Countries with Economies in Transition
 CER—Certified Emissions Reduction
 CERPA—Certified Emissions Reduction Purchase Agreement
 CCS—Carbon Capture and Sequestration
 CDM EB—Clean Development Mechanism Executive Board
 CDM—Clean Development Mechanism
 CDMF—Clean Development Mechanism Fund
 CERC—Clean Energy Research Center
 CH₄—Methane
 COP—Conference of the Parties
 CO₂—Carbon Dioxide
 CPC—Communist Party of China
 CSD—Commission of Sustainable Development
 DNA—Designated National Authority
 DOE—Designated Operational Entity
 ECX—Europe Climate Exchange
 EPB—Environmental Protection Bureau
 ERU—Emission Reduction Unit (in the Joint Implementation)
 ET—Emission Trading
 EU—European Union
 EUA—European Union Allowance
 EU ETS—European Union Emission Trading Scheme
 FAO—Food and Agriculture Organization
 FDI—Foreign Direct Investment
 FOE—Friends of Earth
 FON—Friends of Nature

FYP—Five-Year Plan
 GAO—Government Accountability Office
 G-77—Group of 77
 G8—Group of Eight
 GDP—Gross Domestic Product
 GEI—Global Environmental Institution
 GEF—Global Environmental Facility
 GHG—Greenhouse Gas
 HFC—Hydro fluorocarbon
 HST—Hegemonic Stability Theory
 ICA—International Consultations and Analysis
 ICE—InterContinental Exchange
 ICSU—International Council of Scientific Unions
 IPCC—Intergovernmental Panel on Climate Change
 IPE—International Political Economy
 IR—International Relations
 IUCN—International Union of the Conservation of Nature
 JI—Joint Implementation
 LDC—Least Developed Country
 LULUCF--Land Use, Land Use Change and Forestry
 MATA-CDM—Multi-Attributive Assessment of CDM Projects
 MBI—Market-Based Instrument
 MCX—Montreal Climate Exchange
 MEA—Multilateral Environmental Agreement
 MOEP—Ministry of Environmental Protection
 MOFA—Ministry of Foreign Affairs
 MOFTEC—Ministry of Foreign Trade and Economic Cooperation
 MRV—Measurable, Reportable, and Verifiable
 N₂O—Nitrous Oxide
 NAM—Non-Alignment Movement
 NAMA—Nationally Appropriate Mitigation Actions
 NCCCC—National Coordination Committee on Climate Change
 NDRC—National Development and Reform Commission
 NGO—Non-governmental Organisation
 NLGCC—National Leading Group on Climate Change
 NPC—National People's Congress
 NZEC—Near-Zero Emissions Coal
 OPEC—The Organization of Petroleum Exporting Countries

PDD—Project Design Document
PFCs—Perfluorocarbons
PPM—Parts Per Million
PTSDS—Post-Totalitarian Socialist Developmental State
PRC—People’s Republic of China
REDD—Reduction of Emissions from Deforestation and Forest Degradation
RMB—Renminbi (Chinese Currency)
ROC—Republic of China (Taiwan)
SEEX—Shanghai Environmental Energy Exchange
SEPA—State Environment Protection Administration
SFA—State Forest Administration
SF₆—Sulphur Hexafluoride
TCX—Tianjin Climate Exchange
UK—United Kingdom
UNDP—United Nations Development Programme
UNEP—United Nations Environmental Programme
UNFCCC—United Nations Framework Convention on Climate Change
UNSC—United Nations Security Council
US—United States (of America)
VER—Verified Emissions Reduction
WBCSD—World Business Council for Sustainable Development
WCED—World Commission on Environment and Development
WCI—Western Climate Initiative
WCS—World Conservation Strategy
WMO—World Meteorological Organization
WRI—World Resource Institute
WTO—World Trade Organization
WWF—World Wildlife Fund

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1. Introduction: Rethinking China in Global Climate Politics

Since the Rio Summit in 1992, the international politics of climate change has gone through cheerful Kyoto, promising Bali, disappointing Copenhagen and hopeful Cancun at the end of 2010. This long and intricate journey has demonstrated to the world how difficult it is and will be to reach an international agreement that aims to tackle a common threat to human beings. It has also shown various possibilities in the international arena, including cooperation, conflict, competition, compliance, concessions, convergences and confrontations. How to grasp the dynamics of this process has become a challenge to researchers from various different disciplines, including International Relations (IR). Is it merely a product of power politics? Have established institutions fostered cooperation and compliance? Who suffers and who benefits from the governance of climate change? To what extent can market mechanisms be the solution to tackling climate change? What knowledge is needed to govern climate change? What is to be governed and how? Who should be blamed and who should take the responsibility for tackling this challenge? It is clear that global climate change not only poses a threat to the survival of human beings but also emerges as a specific research ‘object’ for the intellectual world.

Within these controversies, the various roles China plays and the strategies China deploys have gained international attention. China is crucial for the research into international climate politics for several reasons. First, the simple fact is that, in 2007, China surpassed the US as the biggest greenhouse gas (GHG) emitter in the world. As the threat of climate change to human society and the desperate need to tackle it have been widely recognised, China’s role has become more important, since it will be meaningless to try to pursue an international climate change agreement without China’s

participation, no matter to what extent. Since adopting its 'reform and openness' policy from the late 1970s, China has experienced high economic growth which, together with its increasing needs of energy consumption, especially from coal and fossil fuels has generated huge amounts of GHGs. It is widely accepted that the whole world needs to take collective action to tackle climate change. However, how to attribute the causes, responsibilities and the ensuing mitigation measures remains controversial in international negotiations. During this tough process, the disputes between China and developed countries in particular have demonstrated the different concerns and forces in global climate change politics.

Second, China's influence rests not only on its huge emissions but also on its role in international politics as a rising developing country. Although benefiting greatly from fast economic growth in the last three decades, the per capita Gross Domestic Product (GDP) in China is still relatively low¹ and the per capita emissions just reach the world average. As a result, China is still on the way to fulfilling its development goals through economic growth. Meanwhile, China has been an informal leader in the developing world, especially through cooperation with the Group of 77 (G-77). From Kyoto to Copenhagen, the North-South confrontation has formed one of the basic frameworks of international politics of climate change. Yet China's interactions with other G-77 states are complex. On the one hand, current developments, during and after Copenhagen, have demonstrated an emerging diversification within the G-77, as well as amongst Northern parties. On the other hand, the North-South distinction is a crucial reference point for understanding China's self-identification in international climate change politics.

Third, China is a key player in the Clean Development Mechanism (CDM). Since

¹ The per capita GDP in China in 2005 was 1,714 US dollars, which is about a quarter of the world average. A huge domestic gap also exists, as over 20 million agricultural workers remain in a state of poverty (NDRC 2007).

developing countries were not required to bear reduction obligations under the *Kyoto Protocol* (hereafter referred to as the *Protocol*), the CDM was introduced as the only Kyoto mechanism to bring together industrialised and developing worlds in terms of tackling climate change. The CDM also constitutes a crucial part of global carbon markets. Since adopting the CDM in 2005, China has taken the largest portion of the CDM market. The aggressive performance of the CDM has also provided China with a chance to demonstrate its ambition and contribution towards tackling climate change. How a self-proclaimed socialist state encounters a market-based mechanism, in which a neo-liberalist apparatus and mentality are applied, provides space for further explorations into the dynamics of global climate change politics.

In short, China is a multi-faceted actor in global climate politics. It has become the biggest CO₂ emitter since 2007 (Reuters 2007), the biggest energy consumer since 2010 (International Energy Agency 2010), the most active state in the CDM market since 2005 (Efstathiou Jr. and Carr 2010) and also the biggest investor in clean energy since 2009 (Friedman 2010). Meanwhile, rapid and constant economic growth over the last three decades has made China the second largest economy in the world since 2010 (Barboza 2010). China has often been treated as a selfish obstructor of climate change negotiations since the failure of the Copenhagen Summit (Lynas 2009, Miliband 2009, Spiegel Online 2009). However, China also demonstrates to the world its enthusiastic participation in the fields of renewable energy and the CDM market, which are crucial parts of climate change governance. The coexistence of positive and negative images of China in global climate politics has shown the difficulty in analysing the dynamics of global climate change politics.² Moreover, treating China either as an obstructor or a cooperator cannot provide a comprehensive understanding of China's roles and

² When I use the term 'global climate change politics', it refers to a broader picture in which non-state actors and forces are taken into account. Nevertheless, the aim of this thesis is not to analyse the agents and structures of global climate change politics, but to explore how China interacts with state and non-state actors based on different governmental rationalities.

strategies in the international politics of climate change. This ‘good or bad’ question also has its own theoretical bias, which focuses on the institutional side of international climate politics among states. One of the reasons, I will argue, that China’s behaviour is often seen as so unpredictable is because inappropriate theoretical frameworks are being used. How to capture the dynamics underpinning China’s role and strategies within global climate politics is one of the main concerns of this thesis.

Research Objectives

The aim of this thesis is to examine the governmental rationalities underpinning China’s politics and governance of climate change at both international and domestic levels. It is not to blur the separation between the domestic and the international, rather, this thesis treats governmental rationalities from both sides as mutually constituted. On the one hand, the domestic governmental rationalities have influenced the techniques of China’s climate governance, and its self-identification and strategies in international negotiations. On the other hand, these domestic governmental rationalities do not come from and stay in a vacuum, instead, their emergences in China have embodied the encounters between China and the outside world and they are constantly engaging with and influenced by the governmental rationalities from outside. The whole world is still on the way to establishing a long-standing international regime on climate change and the future remains uncertain. It is an ongoing process and the results will be able to affect the political agenda and even lifestyles around the globe in the future. Consequently, the need to understand China’s roles, identities, and strategies towards climate change has become more and more pressing after the failure to establish a post-

Kyoto framework at the Copenhagen Summit in December 2009. By applying a revised governmentality approach which focuses on the governmental rationalities underpinning China's politics and governance of climate change, this thesis is going to examine the following questions:

1. What are the driving forces of global climate politics? In order to answer this question, it is necessary to examine: what are the main disputes in international negotiations? Where do these controversies stem from? What solutions are more popular on the international agenda, and why?
2. What structures and dynamics have shaped China's climate politics and climate governance? What is the target and aim of China's climate governance? Through a case study, this thesis analyses the governmental rationalities underpinning China's politics and governance of climate change by examining China's perceptions, positions, knowledge, and techniques within its own climate governance at both domestic and international levels.

Accordingly, the primary research objective in this thesis is to explore the governmental rationalities framing and directing China's climate politics, at both the international and domestic levels. At the international level, it examines what governmental rationalities have influenced and directed China's strategies and self-identifications. At the domestic level, it explores how China encounters one of the driving forces in global climate change politics, the force and the mentality of the neo-liberal market in its domestic governance of climate change. From the case study on China, the intertwined dynamics in global climate politics are demonstrated, and these

need to be analysed historically and contextually. It is also important to explore the state/society relationship, the legitimacy of the present Chinese government, the knowledge of ‘environment’ and ‘climate change’ and the way to accommodate them in China. Another research objective in this thesis is thus to disentangle these somehow conflicting factors.

Analytical Framework

Inspired by Foucault’s concept of ‘governmentality’ (Foucault 1991b, 2007, 2008), this research focuses on ‘rationalities of government’ or ‘governmental rationalities’ in global climate politics, and specifically on China’s politics and governance of climate change. I will elaborate this concept and the reasons to deploy this revised framework in the next two chapters, but briefly speaking, ‘governmentality’ refers to the ‘conduct of conduct’, the ‘art of government’, and the ‘right dispositions of things’ (Gordon 1991). The concept of governmentality has focused on nuanced and multi-faceted dimensions of power practices. For Foucault, the emergence of ‘government’ marked a rupture with ‘sovereignty’, based around a traditional Machiavellian understanding of power, principality, territoriality, and politics. Since the 18th century the welfare of *populations* has become the end of governance (Foucault 2007). However, as I will discuss in the next two chapters, Foucault developed his work on governmentality based on the observations of the development of modern states in Western Europe. I argue that transformations in governmentalities in different regions of the world should be understood contextually. Moreover, the emergence of governmentality and its dominance over sovereign and disciplinary modes of power since the 18th century has

not been a linear or teleological process. Instead, what Foucault was concerned with were the historical connections between sovereignty, discipline, and governmentality (Foucault 2007, 2008). As a result, I argue that it is necessary to analyse ‘rationalities of government’ dynamically in concrete historical contexts in order to examine the relevant knowledge, norms, techniques, apparatuses, objects and subjects of governance.

To operationalise this Foucauldian concern with governmentality for the study of China within global climate change politics, I adopt in this thesis an analytical framework organised around four distinct rationalities of government which focus more on the ‘norms’ and ‘knowledge’ of governance. These are rationalities of the sovereignty, the development, the market, and the environment. Here, I briefly introduce these four rationalities to be used in the subsequent analysis. Detailed discussions on the emergences and interpretations of these governmental rationalities in China and their influences on China’s politics and governance of climate change are in Chapter Three.

Sovereignty: Sovereignty has long been a core concept in international and domestic politics, as long as the state is recognised as the legitimate player in these fields. Sovereignty refers to the supreme political authority within a fixed territory. The modern notion can be traced to the *Treaty of Westphalia* in 1648 which established the basic framework of international politics and international law.³ The concepts and practices of the sovereign state and the state system were gradually disseminated to the whole world. According to this Westphalian Order, every state should be treated as equal and independent. The exclusivity of the sovereign implies the intolerance of foreign interference into a state. In line with this, sovereignty as a rationality of government is a mode of thought and action which emphasises the exclusivity, territoriality, independence, and autonomy of a state. In analysing sovereignty as a

³Nevertheless, it is still contested that if the Westphalia Treaty had represented the emergence of modern state and state system (Teschke 2003).

rationality of government, my aim is to examine the understandings, knowledge, and discourses of Chinese sovereignty and statehood in relation to global climate change politics.

Development: A variety of definitions and practices of the concept of development can be found in other disciplines but here in this thesis I deploy this concept from the social and economic dimensions which are mostly discussed in development studies. This concept of ‘development’ and the discipline of development studies started appearing after the Second World War, when how the countries and people from the ‘Third World’ might fulfil goals of ‘development’ became a core concern. I will analyse the emergence and evolution of this concept in Chapter Three. In my analytic framework, development refers to improvement in economic and social conditions. The implication is that development has been internalised as one of several crucial goals for different countries. As a result, my analytic framework will focus on how the discourse and knowledge of development encounters and responds to the environmental challenges, including global climate change. Moreover, I will examine the objects and subjects of development in specific contexts in order to disclose the role of this political rationality in environmental politics.

Market: The rationality of the neo-liberal market refers to the general effort to promote a global free market in which national barriers and interference based on ‘protectionism’ are removed. Fundamentally, it aims to expand the market mechanism based on deregulation and liberalisation to different fields and corners of human society, such as land, labour and the environment. To bring this rationality into environmental politics, the concept of ‘ecological modernisation’ and the discipline of environmental economics appear within the capitalist mode of production in order to transform nature and the environment into manageable and calculable objects based on cost-benefit

concerns. As I will analyse, this rationality has played a crucial role in contemporary environmental governance and the politics of climate change to the extent that commodification has become one of the most important tools for tackling environmental degradation and global warming. My thesis will examine how this market rationality is understood, interpreted, and responded to by China.

Environment: From the broadest understanding, the term ‘environment’ can refer to all conditions surrounding specific objects. What I deploy here is the environmentalist concern aimed at the protection, conservation, and improvement of the *natural* environment. As a relatively recent object of social science research, the category and concept of ‘environment’ has brought challenges to existing social scientific approaches. As a contested and contestable concept, this thesis thus focuses on the interplay between the rationality of the environment and the other three governmental rationalities. My aim is to examine how certain knowledge and discourses of the environment in China have influenced China’s roles and strategies in global climate change politics, and how they have facilitated China’s domestic governance of climate change.

These ‘rationalities of government’ should not be treated as ‘fixed’ essences existing without dispute. Taking the rationality of sovereignty as an example, I do not discuss its legal and institutional aspects. Instead, my aim is to examine the existence of this rationality contextually and to further analyse to what extent this rationality has influenced the governance of the environment and climate change. Moreover, the focus on rationalities of sovereignty does not mean the research is limited to the ‘reasons of state’ only. Rather, this focus helps to clarify what relevant knowledge, norms and techniques have been produced, reproduced, and shared by a society in order to facilitate governance. Since governance is related to the ‘right disposition of things’, it

is crucial to examine how the knowledge of those ‘things’ are produced and what is the criterion of right and wrong. The relations among these rationalities are not even and balanced, and they need to be approached within a concrete historical context in order to identify their continuities, ruptures, interpretations, adoptions and transformations.

Research Method and Fieldwork in China

My research starts from archival analysis in order to examine the developments of institutions, regulations and conflicts and compliances around international climate politics. A literature review on existing IR approaches is presented in the next chapter, in which different approaches that deal with ‘nature’, the ‘environment’ and ‘climate change’, based on their ontological and epistemological grounds, are critically examined. Regarding the case study, this thesis examines China’s strategic concerns of climate change from observations on the government, research institutes and civil society in China. A discourse analysis is conducted in order to grasp the perceptions, expectations, aspirations and understanding of the people in China while facing the threats of climate change. The aim is to examine the “ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities” (Hajer 1995: 44). In this thesis, environmental politics is where ‘argumentative struggles’ happen, and “actors not only try to make others see the problems according to their views but also seek to position other actors in a specific way” (Hajer 1995: 53). The power relations and political conflicts behind struggles over meanings will also be explored in order to disclose the underpinning forces. At the same time, what has been

excluded is as important as what has been included.

Due to the dearth of sufficient English language sources and first-hand understandings of Chinese perspectives, I conducted fieldwork in China. I stayed in Beijing for four months in the summer of 2009 and collected a large amount of data, including official documents, media coverage and records of climate-relevant symposiums held by official and semi-official institutions. I also conducted interviews with government officials, researchers on climate change policy and sustainable development studies, experts on CDM projects, consultants from environmental companies and campaigners from environmental non-governmental organisations (NGOs) in China. I undertook a total of 16 formal interviews (details are given in Appendix 1). Each interview took at least one hour.

Due to the sensitivity of the climate change issue and the timing of my research, just a few months before the Copenhagen Summit, it proved extremely difficult to gain access to government officials, which meant I had to turn my focus to Chinese NGOs. I will elaborate on this more later, but to give a brief introduction, all these NGOs have a strong connection with the government, from the fields of policy analysis, and public campaigns to international negotiations. Therefore, being able to conduct interviews with these NGO campaigners provided another channel for gaining information about the government's attitudes.⁴ Moreover, all the NGOs I met in China, the World Wildlife Fund (WWF), Greenpeace China, the Global Environment Institute (GEI), the Climate Group, and the Friends of Nature (FON) are all leading NGOs in the field of climate change research. Besides interviews, I attended two important symposiums, one a low-carbon business forum and the other a forum about the media and climate change.

⁴ The fact is that there is no 'pure' NGO in China, because of the state-society relations and the way the Communist Party governs. However, it does not mean that these NGOs only work for the government. Instead, they still have relative autonomy but, at the same time, they also have many chances to develop cooperation with the government in different fields, for various reasons. Two of the interviewees from the WWF and Greenpeace China attend the international negotiations with the Chinese representatives regularly so they also have good insider information.

Several important officials, including a top negotiation representative Su Wei, and a top scientist Qin Dahe, and other leading researchers were invited to these symposia, which provided a chance to ascertain their government positions directly.

Interviews were conducted in an open-ended and semi-structured way (Robson 2002). My questions were categorised into three parts, concomitant with my empirical concerns: China's foreign politics of climate change, the CDM in China, and the domestic politics and governance of climate change. Regarding the international arena, China's use of different strategies, its self-identification in international negotiations and the underpinning reasons of these preferences were my primary concerns. China's principles in the negotiations, its interaction with the developed and developing worlds and its expectation of a certain international image were discussed a great deal. Regarding the CDM in China, the original query for me was why China has become the biggest and the most important player in the CDM market, regardless of its previous rejection to the proposal of flexible/market mechanisms in the pre-Kyoto stage. I wanted to know, besides economic profit, what factors brought China to engage enthusiastically in this mechanism. From the interviews, I collected fruitful information about the interpretations and expectations of sustainable development, the reality of public participation, the obstacles to applying and operating the CDM and the impacts of this market-based mechanism on China's governance of climate change, all of which were very useful additions to the published sources. Moving to the domestic level, my aim was to understand the relation between the state, society and the Communist Party regarding China's governance of climate change. A grasp of this background helped delineate how different governmental rationalities interact unevenly with each other. I also tried to collect information about how certain policies were campaigned for, encouraged and implemented, and to ask what the reactions have been from society. In

summary, I tried to examine how China governs climate change internationally and domestically through specific designs and measures which are based on certain governmental rationalities. On all of these subjects, my interviewees were able to provide much useful information.

Subsequent to the fieldwork, I collected crucial follow-up information from Chinese websites. These websites are run by NGOs or quasi-official media, some of which hold on-line forums regularly and where many important figures working on energy policy and climate change negotiations are invited to join the dialogue. These also provided a chance to observe the development and transformation of mentalities in China's climate politics.⁵

Structure of the Thesis

After the introduction chapter, I start from the theoretical review in Chapter Two. A literature review on international climate change politics is presented in this chapter. Five approaches in IR are fully discussed; they are the neo-realism, neo-liberal institutionalism, social constructivism, critical international political economy (IPE) and Foucauldian approaches. The review starts by examining the theoretical assumptions of different approaches in terms of environmental politics and the politics of climate change. It then goes on to examine existing literature on China and international climate change politics from the lens of different approaches. The aim of the review is to critically engage with these different approaches in order to explore theoretical

⁵Such as the programme of 'Climate Dialogue'. (<http://www.china5e.com/special/show.php?specialid=107>) from the website of China Energy Net (<http://www.china5e.com/>). This programme has constantly invited influential officials, researchers, business leaders and NGO campaigners to have in-depth talks about climate change and low carbon transition in China. The Green Channel of qq.com (<http://www.qq.com/>), one of the biggest portal sites in China, also has a programme called 'Green Dialogue' (<http://news.qq.com/l/green/Gdialogue/list20100329151448.htm>) which regularly organises many interviews with climate experts.

potentials and limitations. I criticise mainstream neo-realism and the neo-liberal institutionalism, as neither of them can provide comprehensive understanding of international climate change politics and China's role and preferences within it. Moreover, both approaches neglect the power relations behind existing knowledge and institutions and thus can only provide a limited understanding of global climate change politics. Social constructivism stands as the medium between positivist and post-positivist approaches in the IR. Its emphasis on the ideas and norms has facilitated the research on the formation transformation of knowledge and mentalities in present global climate change politics. Although lacking the inner coherences, the hard version of constructivism can work with critical IR approaches to disclose the underpinning forces which influence China's strategies and self-identifications in global climate change politics. Critical IPE approaches have provided many insightful contributions to expose the structural forces. However, I argue that a more historical and contextual understanding is necessary in China's case. The governmentality approach provides a different insight; nevertheless, the universalisation implication in the global governmentality approach has limited its focus on neo-liberalism. As a result, in this thesis I develop a revised analytic framework based on the governmentality concern, which is developed out of critical engagement with both neo-Gramscian IPE and Foucauldian governmentality approaches. Both the neo-Gramscian and governmentality approaches emphasise the universalised power or hegemony of neo-liberal governance. However, I argue that this emphasis on the universality of neo-liberalism has prevented these two approaches from grasping the different and multiple dynamics of power. As a result, I propose a framework consisting of a complex of rationalities, namely sovereignty, development, the neo-liberal market, and environment. The aim is to examine how these rationalities direct and influence China's strategies and self-

identifications in global climate politics.

Chapter Three analyses the emergences of four governmental rationalities in China and how China interprets and transforms them to serve China's governance of climate change in both international and domestic levels. By applying a genealogical perspective, how China encountered these four rationalities is examined. By historically examining the process China encounters and adopts these governmental rationalities, and the relation among the state, society and the Communist Party in China, it helps explain why the rationality of sovereignty and development play dominant roles in directing and influencing China's politics and governance of climate change at both international and domestic levels. In this chapter, I also integrate the observations from my fieldwork to examine how these governmental rationalities interact and compete with each other unevenly, and to constitute the mentality of China's governance of climate change. As a result, this chapter not only serves as the analytic framework for the empirical analysis in Chapters Four and Five, but also provides a dynamic background in which different governmental rationalities reside in different positions. Why the rationality of sovereignty and development outweigh the rationalities of market and environment in China's governance of climate change; and why the rationality of market is instrumentalised and how the rationality of environment is incorporated into different governmental needs can be grasped through the context depicted by this chapter.

Chapter Four analyses China's roles, strategies and self-identifications in global climate change politics. I firstly review the developments of the international regime of climate change in which the achievements and failures in international negotiations are discussed. Reviewing this process can also help to demonstrate which ideas have gradually gained popularity in terms of governing climate change. Then, I move on to

examine the development of China's foreign policy and its concerns in relation to international climate negotiations. China's positions and strategies towards crucial issues of global climate change politics at different stages are discussed in order to examine China's primary principles throughout the negotiations. Besides collective negotiations, China's relations with the developing world, the US and the EU, through bilateral and multilateral interactions, are discussed in order to examine the underpinning rationalities at different levels. Through a contextual examination of China's foreign politics, the imperatives and guiding rationalities become clear. My argument is that, although four rationalities – sovereignty, development, market and environment – can be observed from China's interplay within global climate change politics, the first two play much more important roles than those of the market and environment for China. This is due to the country's specific path of nation/state building in the last century and it helps to explain why principles of 'common but differentiated responsibilities' and volunteer measures have become China's primary emphases. The discussions from Chapter Three have provided a clear context about the development of uneven relations among these rationalities. The findings in this chapter also explain why hard issues become harder, and soft issues become softer regarding China in international climate politics.

Chapter Five examines specifically the CDM in China. The discussion focuses on the development of the CDM in China and on interactions and competitions between different rationalities through the examination of implementation of the CDM. I start with a review of the adoption and development of the CDM in the international arena and discuss the critiques of this market mechanism. I then move on to examine the regulations and achievements of the CDM in China in order to explore how China deals with this market force. Crucially, by integrating many sources from my study and

fieldwork, the gap between the ideals and practices of the CDM in China are analysed. I argue that what operates in China is a 'CDM with Chinese characteristics', with specific relations with Chinese state and society, both physically and mentally. The successful adoption of the CDM in China does not represent a dissemination and victory of the neo-liberal order in global climate change governance. Rather, the Chinese case demonstrates how the operation of the CDM is carefully regulated and monitored by the government. The market force needs to constantly negotiate with political forces on different levels regarding China's CDM practices. As a result, I argue that the market rationality remains auxiliary to the sovereignty and development rationalities in China's governance of climate change. A carbon market has gradually been established but its existence is for facilitating governance by the state. The findings of this chapter not only demonstrate the interaction between the state and the market, but also depict the dynamics among four governmental rationalities in China's governance of climate change.

A summary of the analysis and of my findings are provided in the concluding chapter. A neo-liberal way to govern, manage and commodify climate change has been gradually installed throughout the world. However, this is not a universal or one-dimensional process which can unilaterally force different countries with different historical paths to accept neo-liberal solutions. Critical IPE, neo-Gramscian and Foucauldian approaches have all provided critical accounts of the expansion of this neo-liberal project across the globe. However, to accept these critical approaches without bringing their contextual significance into account also runs the risk of putting the research objects under the academic 'gaze'. By placing China historically and contextually in the site where different political rationalities and structural forces have been entangled, it helps grasp China's strategic concerns of mobilising the market and society for the need of

governance. This particular ‘socialist art of government’ is the crystallisation of different rationalities from the international and domestic levels. In practical terms, this thesis aims to provide a comprehensive understanding of China’s politics and governance of climate change at both international and domestic levels, which can then help reveal the dynamics behind China’s choices and self-identifications in international negotiations in the future. In summary, climate change governance is a contested field in which different rationalities of government are struggling over the right way to provide the ‘right’ governance. Theoretically, this thesis provides a reflexive account of environmental politics, politics and governance of climate change and the IR discipline as well. Specifically, the contributions of this thesis are in these areas: (1) the Foucauldian approach to IR study, (2) the research on the politics of climate change, (3) the research on policy studies of climate change, (4) the research on China’s politics, and (5) the research beyond China. In Chapter Six, I will elaborate more about the contributions and limitations of this research.

2. Theoretical Review: International Politics of Climate Change and China's Climate Politics

The United Nations Conference on the Human Environment in Stockholm in 1972 represented the beginning of a new era, in which the 'environment' started being categorised and integrated into the agenda of international politics. Researchers from the IR discipline started to discuss the environment and relevant issues from different dimensions.⁶ Although gaining attention from human society and relevant disciplines, the concept of 'environment' is difficult to fit into existing disciplines and social life framed by the sovereign state and state system, in which the world is artificially and arbitrarily divided. The environment, from the beginning, has the potential to evolve as a trans-boundary phenomenon, such as global climate change, and cross-border dust storms originated from certain concrete national boundaries. "(T)he problems must be looked at as features of the globe as a whole.....[P]ollutants are indifferent to national boundaries while scarcities caused by human action are commonly global in their implications" (Nicholson 1998: 157). As a result, from 1970s, the world has witnessed increases in multilateral environmental agreements (MEAs), international environmental and relevant organisations, international environmental NGOs, and the establishment of environmental protection agencies in almost every country (Najam *et al.* 2004).⁷ It is an apparent trend that the environmental issue has been highly 'internationalised' or 'globalised'. How to understand, depict, explain, and theorise this burgeoning phenomenon has become one of the unavoidable tasks for IR researchers.

⁶Such as Falk's research on the sovereign system and environmental crisis (1971) and the response from Bull (1977); Waltz also points out pollution as one of the 4 "P"s in international politics (1979).

⁷ The leading international environmental organisations include the United Nations Environment Programme (UNEP), the Global Environmental Facility (GEF), and the Commission of Sustainable Development (CSD). The United Nations Development Programme (UNDP), the World Trade Organization (WTO), and the World Bank are relevant international organisations in terms of global environmental governance.

Climate change, from the scope of its causes and consequences, is a global environmental phenomenon. Although voices from sceptics have never ceased,⁸ anthropogenically induced global climate change has been widely accepted as one of the biggest threats to the future of human society, and it has been integrated into the agenda of international politics. From the establishment of the Intergovernmental Panel on Climate Change (IPCC), the *United Nations Framework Convention on Climate Change* (UNFCCC, hereafter referred to as the *Convention*), to the conclusion of the *Kyoto Protocol*; climate change, which is initially understood as a scientific phenomenon, is gradually ‘politicised’ and institutionalised internationally. Plenty of reviews on the development of the international climate change regime have been made (Rowlands 1995, O’Riordan and Jäger 1996, Paterson 1996a 1996b, Oberthür and Ott 1999, Newell 2000; Bulkeley and Newell 2010). In this research, one more important question is to explore how researchers from different IR approaches theorise ‘climate change’. To analyse climate change through different theoretical grounds, as is done in this chapter, is to make a de-naturalised and contextualised effort to grasp the dynamics of politics of climate change. Just as other environmental issues, climate change has to be introduced, recognised, cognised, and understood through the evidence provided by natural science. Regardless of the continuing challenges to the authenticity of climate science, the way that a society, international or domestic, understands, treats, and tackles climate change reflects certain underpinning assumptions, and thus bears its own possibilities and limitations. It is a continuing process of human engagement, which makes knowledge and the relevant measures about climate change possible, but at the same time, constrains and excludes the potentialities of some alternatives, either in theory or in practice.

Due to the complexities and huge scale of this topic, most researchers can only

⁸ See the event of ‘Climategate’ (Hickman and Randerson 2009) and the disputes over the mistakes in the IPCC report (McKie 2010, Watson 2010).

provide descriptions and empirical, if not theoretical, explanations of international climate change politics (Oberthür and Ott 1999; Helm and Hepburn 2009). Critical reflections from epistemological and ontological grounds are relatively lacking in the IR discipline. While the focus has been moved to China, the majority of the research conducted are textbook-like descriptions which include somewhat contradictory approaches. The mainstream research focuses merely on ‘what is happening in China’s climate change politics’, instead of ‘why China governs climate change in certain ways’. In short, the underpinning political/governmental rationalities of global climate change politics and China’s climate change governance are neglected.

As a result, the aim of this chapter is to establish the theoretical and analytical framework of this thesis based on the critical engagements with existing IR approaches to global climate change politics. Besides examining the validities and limitations of different approaches to global climate change politics in general, this thesis continues to explore how different approaches are applied to the Chinese case. The complexities of the politics and governance of climate change in China have thus provided the space for the critical reflections of existing approaches.

This chapter starts with the review of mainstream approaches. The first section is on neo-realism and the second is on neo-liberal institutionalism. This research contends that both mainstream approaches merely tend to integrate climate change into the existing theoretical framework without reflecting the complexities and specialities of this issue. However, they do provide certain valid explanations in this field. Reviewing this literature critically does not mean abrogating them entirely. Rather, it provides a chance to examine the validity and limitations of mainstream approaches in order to develop a more comprehensive theoretical framework. The third section moves to examine a constructivist approach, which has brought the ideas, identities, and norms to

the agenda. As an intermediary approach in the IR discipline, constructivism has opened up space for further critical engagement. The fourth section reviews the critical international political economy (IPE) and the fifth section is on the Foucauldian approaches. This research contends that both critical approaches have to be critically examined as well. While the structural and underpinning forces are disclosed by these two approaches, it is crucial to examine whether the ‘universalised’ critiques have neglected certain contextual factors. That is why this research applies a framework which focuses on the ‘rationalities of government’. The detailed discussion is in Section Six. In summary, the attempt of this chapter is to critically review existing IR approaches to international climate change politics and, specifically, China’s involvement.

2.1 Realism/Neo-Realism

This section analyses how (neo-)realism in IR deals with the natural world, environment, and climate change specifically. Strands of classical realism, structural realism, offensive realism, and Hegemonic Stability Theory (HST) are discussed in this section. This section starts with a review of realism which became dominant in the IR discipline after the Second World War. The essence of international relations, from a classical realist’s perspective, is power politics which “is a struggle for power over men...power is its immediate goal and the modes of acquiring, maintaining, and demonstrating it determine the technique of political action” (Morgenthau 1965: 195). The international arena is full of conflicts between states pursuing their own national interests. For the neo-realist, based on Waltz’s argument, the basic characteristic of

international relations is the de-centralised structure of anarchy in which states search for the gain and maintenance of the balance of power (1979). All states are 'like units' in that they are only different due to their "greater or less capabilities for performing similar tasks" (1979: 97). This international structure of anarchy predetermines the international changes and states' behaviours with Waltz claiming that "structural constraints explain why the methods are repeatedly used despite differences in the persons and states who use them" (1979: 117). By providing a strict structuralist understanding of international relations, Waltz seems to provide a *scientific* explanation of international politics.

In short, from classical realism to neo-realism, this mainstream tradition has focused on the state in international anarchy. Power and security are treated as the most important targets in international politics. This tradition also applies the positivist method of research in which value and fact are clearly divided. However, there also exist some differences between classical realism and neo-realism: first, classical realism treats international interaction as the extension of human interaction based on human nature; whereas neo-realism emphasises that it is the international structure determining the international interaction among states. Moral concerns no longer enter the agenda of neo-realism. Second, classical realism claims that the pursuit of power by states reflects human nature, whereas neo-realism argues that survival and security are the prior concerns of states. Third, neo-realism claims that states are like-units and that their decisions will be influenced and directed by the international structure of anarchy. As a result, the domestic differences among states are not important theoretically. Fourth, neo-realism is concerned more about international economic interaction than classical realism is. Fifth, classical realism emphasises the dimension of conflict in international politics, whereas neo-realism argues that it is still likely to have certain international

cooperation while the relative gains can be pursued. In other words, neo-realism has brought the research focus to the macro and systemic level of international politics. Although there are other variations of realism, including offensive realism, defensive realism, neoclassical realism, and the HST, the key assumptions of this dominant mainstream approach remain: (1) power politics; (2) clear distinction of international/domestic politics; (3) international anarchy; and (4) the centrality of state. State is treated as unitary and rational actors in international politics (Vasquez 1998). Based on these assumptions, realists claim that the pursuit of survival, national security and national interests in an anarchical international arena should be the most important task for a state.⁹

Regarding the natural world, there is no clear difference between classical realism and neo-realism. Realists simply treat it as a stock of natural resources which could be, and should be, exploited for industrial production and as one element of national power in terms of warfare (Morgenthau 1967). The understanding of ‘nature’ and the ‘environment’ is limited in the framework of power politics and the natural world is represented as a place of raw materials, which facilitates the operation of war. In the 1970s, neo-liberalism appeared as the challenging force, if not fundamentally, to mainstream neo-realism so that the concept of complex interdependence was introduced to the IR discipline (Keohane and Nye 1977). However, the understanding of the ‘natural world’ has hardly changed. The term ‘nature’ is still treated as one fixed arena with natural resources and raw materials and it existed because of the management and control by human beings in order to pursue economic growth and development. In the end, the potential dynamics between human society and the natural world is still neglected and nature and the environment could only appear as a fixed and predetermined ‘factor’. The environment has been seated on the periphery within the IR

⁹As a result, the term ‘realist’ represents this IR tradition in this thesis, whereas the term ‘neo-realist’ represents a specific approach with a distinct research agenda within this tradition.

discipline and will be kept marginalised because the centrality of environmental issues, such as ‘low politics’, depends on the nature of wider political and economic developments, namely the ‘high politics’ agenda (Smith 1993).

As a result, the realist tends to integrate climate change and other environmental issues into existing hierarchical and anarchical frameworks, specifically in the (national) security category. Realists are pessimistic in the face of real insecure, violent, chaotic, and anarchic threats outside the national boundary, so much so that this fear becomes an inner drive to secure the ‘tame zones’ as they “search for the techniques of power that aim to secure territories in the most effective manner, seeking to make territorial borders a source of protection” (Lacy 2005: 2). By analysing the arguments of Mearsheimer’s offensive realism (2001), Lacy uncovers that there exist hierarchies of security within realism and this helps explain the realist’s attitude towards environmental issues (Lacy 2005). Based on the hierarchy of security, those non-traditional threats, such as the spread of the Acquired Immune Deficiency Syndrome (AIDS), environmental degradations, population growth, global warming and climate change, can be treated as Second-Order problems, which means “there is little evidence that any of them is serious enough to threaten the survival of a great power” (Mearsheimer 2001: 372). As Lacy claims,

[T]he hierarchy of First-Order/traditional and Second-Order/non-traditional problems secures the foundations of the discipline from alternative ways of thinking about (in)security...Realism works to foreclose and pre-empt the unraveling of human possibilities by arguing that military insecurity is the ‘grand narrative’ of the human condition (Lacy 2005: 32).

It is not only threats that are framed in this hierarchical understanding but also responses and attitudes that are differentiated by this framework. Although being pessimistic towards traditional threats, Mearsheimer (2001) posits a techno-optimistic perspective towards those non-traditional threats and claims that problems could be tackled as the development of advanced technologies progresses. Climate change, from this perspective, “will be able to create technological fixes, strategies of adaptation that will provide the re-attainment of security” (Lacy 2005: 134). In other words, investment in adaptation is more important than in mitigation measures on account of fighting global climate change. The implication is that current international efforts to curb GHGs emissions are not urgent in international politics. Fundamentally, climate change, as a non-traditional threat with a strong science-relevant character, has not gained sufficient attention from realists and, as a consequence, this issue is only treated as another factor to be incorporated into the realist’s existing analytical framework.

Based on this universalised and hierarchical ontology, realists either treat climate change as a ‘technical’ problem which will be solved by advanced technology, as Mearsheimer claims; or they just keep addressing climate change at the level of ‘low-politics’. For realists, there is no need to develop new perceptions of climate change in international politics since the existing framework is considered comprehensive enough for the analysis. Besides, for realists, (national) security is another category that is able to integrate climate change into the existing framework. In practice, climate change has gradually appeared as an emerging security issue, which could threaten nation states in many dimensions. In April 2007, the United Nations Security Council (UNSC) had a fierce debate about climate change. However, from the debate, it was clear that climate change needed to be considered seriously only because either its effects cause conflicts and violence in the international arena, or it has a direct impact on public health and

living conditions (Scott 2008). The discourses that appeared in the debate did not move away from the traditional concerns of national security.¹⁰ Climate change is merely represented as a factor which may bring instability and conflict to nation states. This phenomenon does not guarantee the emergence of international cooperation; instead, the “goal of reducing emissions could fall prey to a competitive struggle for resources, exacerbating already existing tensions and divisions” (Giddens 2010: 205). However, it is not easy to figure out a clear realist account in terms of international climate change politics. Partly, it is because of the complexities of this issue that researchers might unintentionally use some realist language in their analysis, and partly it is because realists do not treat climate change seriously, except for when it is related to the field of national security. One of the reasons, this research argues, why researchers unconsciously apply realist language in their analysis is that international climate politics does, to some extent, involve the ‘resurgence of the nation state’. Consequently, many features, such as national security, national interests and the self-interested national state seem to fit in with the explanation of international climate politics.

This phenomenon is especially apparent when the focus turns to China, since in China the state is run by the Communist Party and has a dominant role over other spheres in Chinese society. In other words, China seems to be a perfect model for a realist account in international climate politics. China’s economic growth, since the economic reform which started in the late 1970s, has been magnificent and it has become the global centre of manufacturing (Liang 2007). This tremendous growth relies heavily on energy use, especially the consumption of coal, which is up to 70% in China. Following three decades of rapid growth, China is still on its way to industrialisation

¹⁰ Even though the US has been continually criticised for its withdrawal from the *Kyoto Protocol* since 2001, it has recognised the potential threats from climate change. The Pentagon has admitted that climate change “may act as an accelerant of instability or conflict, placing a burden on civilian institutions and militaries around the world” (Goldenberg 2010). Again, the understanding is based on the framework of national and military security.

and urbanisation and the total amount of energy consumed and concomitant emissions of greenhouse gases are still increasing. China became a net importer of oil from 2003 and a net importer of energy from 2007. Moreover, China is now the third-largest oil importer in the world (Jiang and Hu 2008: 314). These simple phenomena demonstrate just how China treats energy supplies and energy security as its main strategic concern and how difficult it will be to reform the coal-based energy structure, which plays an important role in the battle to tackle climate change. As a result, the politics of climate change, international or domestic, has to be understood through a geopolitical and strategic concern, demonstrating that consolidating energy security, including the acquisition of raw materials in order to maintain economic growth, is the priority of the Chinese government. In other words, China's climate change politics should be understood through the lens of energy security, which refers directly to national security and represents a strong realist language. Domestically, China has taken measures to enhance energy efficiency and the readjustment of the energy structure (Jiang and Hu 2008). The market for renewable energy has grown rapidly in China and, besides boosting the solar energy and hydropower sectors; China has become the world's largest maker of wind turbines (Bradsher 2010). Internationally, the expansion of Chinese investment in Africa and Latin America, in terms of the energy and raw material sectors, has demonstrated this strategic operation. According to Liang, the total amount of Chinese foreign direct investment (FDI) in Africa had reached 6.27 billion US dollars by the end of 2005 with most of the investment going to projects securing drilling rights in Nigeria, Sudan and Angola, together with exploration and extraction agreements with Chad, Gabon, Mauritania, Kenya and the Republic of Congo, Equatorial Guinea, and Ethiopia. In Latin America, China has agreed a 100 billion US dollars investment in oil, gas, and mining projects and other infrastructure developments in countries with rich

resources, such as Bolivia, Ecuador, Cuba, and Venezuela (Liang 2007: 138-140). Energy security and climate security, therefore, are two sides of the same coin for China (Liu *et al.* 2008).

Consequently, climate change is not merely an environmental issue for China. Instead, it is essentially a ‘development’ problem from Chinese understanding¹¹ or it has opened a new battleground for international competition in which the achievements from so-called ‘clean energy’ sectors have been strategically incorporated into state capabilities and national interests (Gordon *et al.* 2010). From the realist perspective, China’s efforts to tackle climate change by investing in energy security and clean energy should be translated into the thesis of ‘the rise of China’. China has taken strategies of neo-mercantilism and resource nationalism in the global energy market (Vivoda 2009) and this trend has marked a resurgence of state-centric geopolitics in a so-called ‘globalisation’ era. From China’s self-interested concerns, including pursuing national interests, preserving sovereignty and enhancing its international image (Zhang 2003), to its aggressive role in the global energy market, it is clear that China is the ideal player in a realist game (Kobayashi 2003). China has represented how a state-centric actor should behave in international climate change politics. Meanwhile, China’s huge investments in the renewable energy market (Friedman 2010), its monopoly of rare earths (Lewis 2009), and its aggressive attitude towards securing the supply of petroleum from foreign countries have demonstrated the realist understanding in which the competition for energy has brought a new international battleground among great powers. From a realist concern on the theme of ‘the rise of China’, it is not merely the threats from climate change but also the threats from China. However, no matter how successful the realist approach seems to explain international climate change politics, especially when China is involved, has China’s case proved the victory of realism in IR?

¹¹The Chinese President, Hu Jintao, first announced their position at the G8 meetings in 2007, following which this argument has been reaffirmed by Chinese officials and scholars (Buckley 2009).

From the theoretical perspective, Paterson's criticisms of the neo-realist's account of international climate change (1996a) expose the theoretical deficiencies of neo-realism in this topic. The assumption of international anarchy is deeply rooted in the realist approach, which makes international cooperation more difficult. Paterson then tries to examine how international cooperation could possibly happen through a realist framework, since international climate change politics is, to some extent, the politics of how to tackle international public bad and to reach international public good at the same time through collective actions. As a result, Paterson has discussed HST, which deals with the public good problem, as the start of his critique. From both theoretical and practical examinations, Paterson has pointed out the insufficiency of this theory to address the politics of global warming, since realists have a limited understanding of what 'power' is. The limited understanding of power, which can be merely reduced to physical resources, in the realist approach has, therefore, failed to provide a more comprehensive depiction of climate change politics. He also points out the deeper problems of the realist approach, which arise from the state-centric assumption. Domestic factors, such as the structure of energy dependence and the perceived impact of global warming, are more influential in defining state interests in different contexts, rather than a fixed existence. Another problem is that the realist treats the state as the only legitimate actor in international climate change politics. The contributions of UN-led organisations, such as the World Meteorological Organization (WMO) and the IPCC, in the process of knowledge forming, which influenced the agenda setting of climate negotiations, are severely neglected in the realist account. What is more crucial is the realist's anarchic assumption of the international arena. Waltz's (1979) structuralist account of international anarchy makes it impossible for the realist to analyse the dynamic process of agenda setting (Paterson 1996a).

To put it in an abstract way, the reasoning of HST seems to make it acceptable that an international hegemon is a necessary condition to pursue the common good. However, if this approach is applied to practical issues, it becomes problematic in different dimensions. First, the initial purpose of HST is to examine the decline of the US power in an international economic regime (Kindleberger 1973; Gilpin 1987). How far this approach can be applied to different issues remains problematic. Besides, whether US power was really declining it has not gained an academic consensus (Strange 1987). The limited and physical understanding of ‘power’ of HST is one of its core problems. When it turns to the climate change issue, how can people find the criteria to define and compare power and to identify a hegemon in this field? The amount of emissions? Advanced technologies for renewable energy? The will and capabilities to make the sacrifice? The ability to provide convincing discourse? Or the capability of compliance? Second, what is the criterion if an international climate change regime was successfully established or not? To compare the Kyoto Summit and the Copenhagen Summit, it seems reasonable to claim that Kyoto marks a success and Copenhagen a failure. However, if HST is applied in these two cases, it will be difficult to provide a convincing explanation. If the US was the hegemon at the Kyoto Summit, how can this framework continue to work after the US withdrew from the *Kyoto Protocol* in 2001? Meanwhile, when the attitude of the US towards the international climate change agreement changed after President Obama came into power in 2009, why did the Copenhagen Summit still end in chaos? This thesis argues that HST lacks a dynamic understanding of these international events, from the historical responsibility pulling developing countries together, the gradual affirmation of scientific knowledge and, following international pressures, to the different situations of domestic energy consumption and dependence. Moreover, even if the Copenhagen Summit has brought

disappointment to the world, the global carbon market is still running well regardless of the uncertainties of the post-Kyoto framework. As a result, this thesis contends that HST has its limitations when applied to climate change politics.

Nevertheless, where are these criticisms of realism in international climate politics from? Paterson has discussed Waltz, Gilpin and Snidal to develop his criticism. None of these people had used their theory to analyse international climate change politics, directly.¹² Paterson is right to point out the theoretical limitations of the realist account to catch up with the dynamics in the process of international climate negotiations. The state-centric and international anarchy assumptions do bring difficulties for realists to properly analyse international climate politics. However, is that what realists try to do? Taking Mearsheimer's argument (2001) into account, is it possible that, essentially, realists are not willing to engage in this topic because it is just 'low politics'? On the other hand, despite the realists trying to provide a useful analytic tool regarding international climate change politics, does the failure of the Copenhagen Summit in December 2009 not demonstrate the effectiveness of the realist approach in explaining the difficulties of international cooperation under an anarchic context? Do the roles that the US and China play not represent state-centric power politics with self-help characters in the international arena? This research argues that due to the clear-cut and hierarchical understanding of the international arena, the realist approach gives 'international' and 'high politics' a dominant theoretical account over 'domestic' and 'low politics'. As a result, climate change is treated as a technological issue, which does not need to be theorised comprehensively. Laferrière and Stoett (1999) also provide a similar argument by examining realism through a meta-theoretical perspective and they claim that the five key elements of realism have directed its interplay with ecology and

¹² For the hegemonic stability theorist, besides the original concern on the evolution of the economic regime (Kindleberger 1973), the focus was on the decline of American hegemonic power in terms of the international liberal economic order (Gilpin 1987).

the world of 'nature'. These elements are: (1) the ontology of conflict and aggression; (2) hierarchical component; (3) the emphasis on homogeneity; (4) a materialist worldview; and (5) reductionalist epistemology. As a result, the environment and nature is understood to be seen through a utilitarianist lens as scarce natural resources. It is the logic of conflict which underlies the international politics in an international anarchy. Fundamentally and theoretically, it is clear that the realist approach has severe limitations when applying itself in international environmental politics. It gives too few credits to domestic factors and non-state actors and it also fails to explain the changes and transformations in this field.

Nevertheless, it is not to say that the realist approach is not useful at all. It is through *practices* by different states, and even non-state actors, that these realist assumptions are reproduced and consolidated. Therefore, it will always be useful to bear realism in mind when analysing this topic, especially when China is taken into consideration. International climate change politics can be represented and integrated into an existing realist framework which enables it to be understood and tackled through the concepts and categories of energy security, national interests and international competition. The realist approach has its own theoretical limitations and does not have the tools to analyse the dynamics of international cooperation on climate change (Paterson 1996a). However, it is useful to explain why the international society could not reach cooperation from its own basic assumptions. It is also helpful, to some extent, to analyse China's foreign politics of climate change in which competition and compliance happen around concerns of national interest (Lewis 2007, Schroeder 2009). At the same time, it is important to bear in mind that instead of those universal assumptions, the fact is that the realist account has its own historical and societal context. It is only when participant actors are still trapped in and obsessed by the state system consisting of sovereign states

that the realist approach could be effective.

2.2 Neo-Liberal Institutionalism

This section deals with different threads of liberalisms in the IR discipline, including complex interdependence, liberal institutionalism, and regime analysis.¹³ Some research of global governance is discussed in this section as well, due to its practical and theoretical connection with liberalist tradition in IR. Starting from the general review, the aim of this section is to examine how different liberalist approaches incorporate the themes of environmental and climate governance. As another pivotal mainstream approach in the IR discipline, liberalism once challenged the dominance of realism and has produced many agreements and disagreements with its opponent. In general, the liberalist tradition in IR marks a different approach focusing on cooperation, progress, peace, norm, and order in the international arena. Some liberalists focus more on the societal dimension that the concept of ‘transnational relations’ should be used in international politics. This sociological and pluralist perspective has raised academic interest in non-state actors and has influenced Rosenau’s research of global governance (1990, 2005). Another strand of liberalism is the influential interdependence approach and the concept of ‘complex interdependence’ raised by Keohane and Nye (1977). Keohane and Nye claim that the priority of high politics over low politics no longer

¹³ It is not easy to clearly accommodate regime analysis in the IR discipline. The regime theory has strong connections with the liberalist tradition in the IR discipline; whereas it also can be applied by the realist account, especially the HST. Hasenclever *et al.* (1997) categorise regime theory into three different approaches: liberal-derived interest-based, realist-derived power-based and constructivist-derived knowledge-based approaches (1997). Bulkeley and Newell (2010) also build up a similar categorisation of regimes: power-based, functionalist-interest-based and constructivist. The operation of power-based regimes relies on the existence of a hegemon and that the design of the institutions is for the hegemon’s needs. On the other hand, the emphasis of interest and knowledge helps explain the emergence and dynamics of international cooperation. This thesis understands the realist application of regime analysis but in this section, this thesis tries to focus on the possibility of cooperation caused by the establishment of international regimes, which has a strong tie with the neo-liberal institutionalism.

exists under the condition of complex interdependence. However, although they argue that the state is not a coherent unit and they have credited many non-state actors at international and domestic levels, they do not want to challenge neo-realism fundamentally. Instead, they situate themselves in a more balanced place to supplement the realist approach. Neo-liberal institutionalism thus sheds light on the establishment, impact and transformation of international institutions (Krasner 1983; Keohane 1984, 1989; Young 1989). Finally, some liberalists focus on the democratic peace in the international arena (Thompson 1996, Fukuyama 1992). Just as there are varieties of liberalism itself, the responses from the liberalist approach to realist critiques also vary between different branches.¹⁴

The liberalist approach has moved the research focus to many areas which the realist approach does not pay sufficient attention to, such as international trade, international governmental and non-governmental organisations, multinational corporations, institutions, and ideas and norms. Although idealism, the classical liberalist approach in the IR discipline, lost its influence in the IR discipline after the Second World War, the liberalist tradition has revised itself by integrating concerns from different approaches and has become another mainstream IR approach. The development of the ideas of neo-liberal institutionalism was based on: (1) traditional liberalist thoughts such as the emphasis on institution and norm to pursue international peace or cooperation; (2) the debates with neo-realism (Nye 1988, Keohane 1989, Grieco 1993); (3) the experiences of the integration of the EU (Keohane *et al.* 1993) and (4) the dialogues with other disciplines, especially with the prisoners' dilemma in economics and the research of the institution by the economist Douglas North (1990). The pursuit of the legal norms from the Kantian liberal internationalism has influenced the neo-liberal institutionalism on

¹⁴Keohane (1989) is closer to neo-realism in that he moves his focus on the common interests among states. There are also a group of liberalists maintaining their strong criticisms of realism. They claim that liberal peace can be reached even under the context of international anarchy (Cooper 1996, Sørensen 1997).

the roles of norms and institutions in international politics. Meanwhile, neo-liberal institutionalism also shares a similar emphasis with classical liberalism on the role of organisations consisting of individuals in international relations (Keohane 1989: 10-11). Nevertheless, Keohane also points out that the cooperation in neo-liberal institutionalism is different from the harmony under natural conditions in classical liberalism and that the former brings the emphasis of institutions without denying the state power (Keohane 1989: 11). Although how 'liberal' the neo-liberal institutionalism remains is controversial (Moravcsik 1997),¹⁵ neo-liberal institutionalism does share some core values with liberal traditions in IR, including the emphasis of societal factors, information, international law and organisation and norms.

Neo-liberal institutionalism emphasises the integration and interdependence practices in the international arena and argues that international cooperation is feasible even in an international anarchy. Keohane and Nye (1977) have elaborated that societies are increasingly interconnected and mutually interdependent at various levels, especially through their economic aspects. Differing from neo-realist assumptions that the states act only to maximise relative gains, the neo-liberalist assumes that the states act to maximise their *absolute* gains. Furthermore, the gains are not necessarily to do with power but are more reliant on an economic measure of welfare (Paterson 1996a: 63; *italic in origin*). Therefore, cooperation becomes possible and desirable in international politics. Neo-liberal institutionalism has adopted many assumptions from neo-realism that states can only follow a self-help principle to guarantee their security within international anarchy. Nevertheless, these realist assumptions do not preclude the possibility of international cooperation which occurs while mutual understanding and mutual trust among states have been established, and this can be reached through the

¹⁵Moravcsik (1997) treats neo-liberal institutionalism as 'functional regime theory' and argues that it shares more hard-core assumptions with realism than with liberalism. Nevertheless, Keohane does not agree to be treated as a functionalist (2002).

establishment of international institutions.

The development of the interest-based regime analysis also helps grasp this cooperative dimension in international politics. International regimes are defined as “implicit or explicit principles, norms, rules and decision-making procedures” (Krasner 1983: 4-5). Although neo-realism admits the existence of international regimes as well, it still argues that power is the main characteristic of the formation and maintenance of international regimes. Regimes can only facilitate states to coordinate, not cooperate. However, neo-liberal institutionalism argues that international regimes will bring international collaborations. International regimes can help reduce the uncertainties of the international system, and thus regulate international interaction. It can also provide reliable information and guidelines in certain fields. In the end, norms from different regimes are expected to be internalised to different states. An institutionalist approach involving the study of regimes thus provides the framework to understand how order and governance work in an ‘anarchic’ system composed of sovereign states (Vogler 1996: 6).

The research of global governance that emerged in the 1990s is concomitant with phenomena such as the end of the Cold War, fierce competition in the global market and the transformation of the power and authority of the nation state (Held and McGrew 2002). The report *Our Global Neighbourhood* from the Commission on Global Governance in 1995 stated that ‘governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs’. The study of global governance has intimate connections with the liberalist tradition in the IR discipline and the mechanism of global governance, to some extent, can be treated as the representation and operation of international institutions and regimes. Nevertheless, differences remain between regime analysis and the study of global governance. First,

the international regime still treats the sovereign state as the only legitimate actor in international politics, whereas the study of global governance has admitted the significances of many non-state actors.¹⁶ Second, regime analysis emphasises the multilateral collaboration among states, whereas within the study of global governance a networked and multi-layered interaction among public, private and the third sectors emerges (Salamon 1994). Members from global civil society have also participated in the process of governance (Ferguson and Barry Jones 2002, Josselin and Wallace 2001, Mertus 2002). As a result, although influenced by the liberalist tradition, the study of global governance has the potential to challenge the state-centric assumptions from the mainstream IR approaches.

Although this thesis does not engage with the research on global governance since the main research target of this thesis is to explore the governmental rationalities underpinning China's politics and the governance of climate change at both international and domestic levels, some researchers have mixed approaches of neo-liberal institutionalism, regime analysis and global governance in international climate politics (Young 2000a, 2003; Zhu 2007; Zhuang *et al.* 2009). As a result, this thesis claims it is necessary to briefly review the research on global governance.

The critiques of the research on global governance, whether it is treated as a phenomenon or an approach, emerge from various dimensions as well. Besides questioning the problem of accountability and authority in global governance (Kratochwil 1997, Ottaway 2001, Aksu and Camilleri 2002, Patomäki 2005), Barnett and Duvall point out the need to examine different conceptualisations of power.¹⁷

¹⁶ These non-state actors include: non-governmental organisations, sovereignty-free actors, issue networks, policy networks, social movements, global civil society, transnational coalitions, transnational lobbies, and epistemic communities (Rosenau 1999: 296-297).

¹⁷ They point out four conceptualisations of power: (1) compulsory power which is direct control over another actor; (2) institutional power which represents actors' control over socially distant others; (3) structural power which concerns the constitutive, internal relations of structural positions; and (4) productive power in which different subjects are produced through social relations (Barnett and Duvall 2005a: 8-22). Along with different conceptions of power emerge different forms of resistance.

Research on global governance should not focus on the technical level only, but also on the ‘spirit of the machine’ which is Liberalism (Barnett and Duvall 2005a: 5). As a result, Barnett and Duvall claim that IR scholars “need to be more attentive to the many ways in which power exists in the liberal practices and liberal institutions of global governance” (2005a: 24). Based on this understanding, Adler and Bernstein (2005) move beyond the material capacity of global governance and examine the importance of knowledge which is represented as productive power, and legitimacy and fairness. Müller and Lederer also sort out three critical voices which treat global governance as: (1) an ideological project that global governance is indeed ‘neoliberalism in a new disguise’; (2) a project lacking legitimacy in the sphere of civil society where non-state actors participate; and (3) as a hegemonic project which is a disguise of ‘US power or at least one manifestation of the *Empire*’ (Müller and Lederer 2005: 8-9, *italic as original*).

After analysing the genealogy of global governance by examining the changes of state-society relations, Selby points out that the term ‘governance’ was presented as ‘a neutral, technical matter of social ordering’ (2003: 3). ‘Good governance’ thus presents itself as apolitical and technical management. The de-politicisation of global governance has caused a lack of attention to the power, power/knowledge, structures, conflicts, resistance and changes in global politics. As discussed earlier, this has brought the phenomenon of ‘politics via market’ in which domination and surveillance operate through the language of market and managerialism (Lipshutz with Rowe 2005). The concept of ‘global governmentality’ has developed its Foucauldian critique in the research of global governance and it argues that institutions and norms of global governance represent ‘newly reconfigured means of monitoring and regulating social conduct’ (Selby 2003: 8). The liberal project underlying global governance has involved ‘new ways of defining, invigilating, managing and indeed governing social relations’

(Selby 2003: 8).

Nevertheless, this thesis recognises the contributions of research on global governance and it does enrich the understanding of global politics by bringing multi-layered, multi-centric and multi actors into analysis and giving credit to both the material and non-material aspects of the process. As Larner and Walters argue, both global governance and global governmentality have pointed out that the research into governance does not necessarily focus on a 'single centre or source'. Meanwhile, both concepts also accept that governance can be 'pervasive and dispersed' (Larner and Walters 2004a: 16-17). Nevertheless, this thesis emphasises and agrees that the lack of historical concern has made the research into global governance difficult in its connection to the 'longer trajectory of liberal political reason' (Larner and Waters 2004a: 17). As a result, this thesis argues that the relation between the research on global governance and global governmentality is supplementary, instead of mutual exclusive. Meanwhile, whether deploying the research of global governance or global governmentality, the context and history of the research object need to seriously analysed. In other words, a universalised critique of the liberal project should be reflected cautiously while analysing a specific nation, state or culture with its own historical contingencies and specific contexts. In short, this thesis agrees on a potential contribution from the research on global governance, but this thesis also points out that the underlying depoliticised assumptions, power relations and knowledge by some researchers need to be explored as well.

In terms of international environmental and climate change politics, the neo-liberal institutionalist approach, combined with an interest-based regime analysis, has become the mainstream approach in this field. Abiding by the developments in international environmental agreements, laws, and institutions, the neo-liberal institutionalist

approach provides a theoretical framework to explain and understand the ‘problem-solving’ process in global environmental politics. NGOs and other influential non-governmental actors, such as the media, epistemic groups and multinational corporations, are incorporated into this framework (Newell 2000) and have also influenced the emergence of the study of global governance from the 1990s. In short, by applying a neo-liberal institutionalist approach, researchers have claimed that international environmental degradations/problems could be, and should be tackled through international collaboration by international regimes.

Young’s rich work (1989; 1994; 2000b; 2002; 2003; 2004) has demonstrated the application of this approach in international environmental politics. For Young, institutions are “social practices consisting of easily recognized roles coupled with clusters of rules or conventions governing relations between occupants of these roles” (1989: 32). From the attempt to broaden the regime analysis, he defines governance as

[I]nvolving in the establishment and operation of social institutions, which includes sets of rules, decision-making procedures, and programmatic activities that serve to define social practices and to guide the interactions of those participating in these practices. (2000b: 4)

Regimes, according to Young, are “arrangements designed to resolve social conflicts, promote sustained cooperation... and...alleviate collective-action problems in a world of interdependent actors” (2000b: 4). Therefore, he focuses his research on the formation, effectiveness and changes to international environmental institutions and regimes in order to examine the questions of causality, performance and design in the institutional dimension of environmental change (2002). For Young, regime analysis

focuses on “governance as a social function rather than on government as a collection of organizations” (2000b: 21). In other words, Young has integrated the study of global governance into regime analysis and thus emphasised the roles of norms and rules, which provide the possibility to overcome obstacles for international cooperation among states. However, this theoretical mixture has its limitation in that while the theme of global governance focuses on ‘governance without government’ (Rosenau and Czempiel 1992), Young still admits the core role that states play in the international regime (2000b).

Regarding the aspects of norms and rules, the epistemic community approach has provided a particular insight to seize the dynamics of institution formation.¹⁸ This approach, developed by Peter Haas (1990), takes scientific knowledge into account in order to examine how knowledge shapes international politics and to explore how common interests among states are formed and shared. Epistemic communities are “knowledge-based groups of experts and specialists who share common beliefs about cause and effect relationships in the world and some political values concerning the ends to which policies should be addressed” (Haas 1990: xviii). They adhere to (1) shared consummatory values and principled beliefs; (2) shared causal beliefs or professional judgment; (3) common notions of validity based on intersubjective, internally defined criteria for validating knowledge; and (4) a common policy project (Adler 1992: 101). This approach is most useful when analysing the stage of agenda setting in international politics, in which political power and scientific knowledge interplay and compete with each other to frame the evolution of certain rules and norms of international institutions. This is just as Haas’ claims that “[i]nternational

¹⁸ It is arguable if the epistemic communities approach can be categorised in the liberalist tradition. Paterson has points out the features that distinguish this approach with liberalism (1996a: 135). However, the varieties of liberalist approaches make it difficult to depict a coherent liberalist posture in international environmental politics. The reason why the epistemic communities approach is discussed here is its common feature with liberal institutionalists in terms of pursuing workable international norms.

environmental cooperation is generated by the influence wielded by specialists with common beliefs” (1990: xxii). The epistemic community approach is a relatively loose framework in that many of its key concepts remain questionable in the empirical operation. However, it is due to this loose ground that this approach has the potential to incorporate with other approaches. On the one hand, the exploration of the epistemic community helps supplement the neo-liberal institutionalist approach in terms of shared values and norms in the process of forming institutions. The role and influence of the IPCC in international climate change politics demonstrates the applicability of this approach through an institutionalist framework. On the other hand, once the category of knowledge is taken into account, it is likely to radicalise the research agenda in order to question the relations between power and knowledge, which has not gained sufficient attention from both the realist and liberalist approaches. In other words, ‘knowledge’ is as questionable as power. In order to examine how certain ‘truth’ is generated by science and then to influence the political sphere, knowledge has become a target for further examination. This leaves the space for constructivist and Foucauldian approaches for further engagements (Adler and Bernstein 2005).

Coming back to the international politics of climate change; it is not difficult to see the popularity of the neo-liberal institutionalist approach and the interest-based regime analysis. The international environmental regime, from the beginning, aimed to tackle international environmental problems, such as international commonly shared natural resources and transboundary externalities (Young 2000b) through international collective actions. Cognitively, to most people, the international politics of climate change is about the efforts between states to reach feasible international treaties, agreements or organisations, in order to curb global warming. A progressive and relatively clear narrative makes neo-liberal institutionalism more acceptable as an

analytic tool to understand international climate change politics. For states, the establishment of the World Meteorological Organisation (WMO), the IPCC and the International Council of Scientific Unions (ICSU) has affected decision-making and altered incentives for further cooperation. These international organisations played an important role as ‘agenda-setters’ at this stage (Paterson 1996a: 124-125), when the climate change issues has not been ‘politicised’. Besides this ‘weak’ definition, institutions and regimes can be also treated as norms and rules, as Young (2000b) argues, that a norm of how to respond to global warming was formed.

Based on these assumptions, Depledge and Yamin (2009) have used an institutionalist account to review international climate change politics. They claim that through the gradual establishment of international institutions, including the IPCC, the UNFCCC, the Conference of the Parties (COP), the Kyoto Protocol, the Bali Action Plan, the CDM Executive Board (CDM EB) and many other relevant bureaus and organisations, the international climate regime has made huge achievements. This regime has helped international society to (1) generate momentum, (2) enable reciprocal deals, (3) facilitate learning, and (4) promote reporting and verification (2009: 439-443). They argue that by reviewing the international climate change regime through a long-term perspective, history has shown how this regime facilitates international cooperation when tackling climate change. However, they did not have the chance to witness the disputes and failure of the Copenhagen Summit in December 2009 and it is, therefore, no wonder that they have given climate change regimes and institutions such high accreditations. Nevertheless, their analysis does challenge the fixed/homogeneous assumption of national interest from a realist account. Depledge and Yamin argue that through the dissemination of information by the international regime, states will change their preoccupied dispositions, such as the acceptance of the market mechanism in the

climate regime. The development of an international climate change regime has gradually enabled trust to be built up among the participants and, hence, facilitated further international cooperation. Benwell (2008) also has a similar optimistic conclusion from his research on the emissions' trading scheme. He claims that the establishment of the European Union Emissions Trading Scheme (EU ETS) in 2005 and its ensuing implementation created an incentive to encourage other participants to link with the European scheme. In other words, the success of the ETS not only represents the advantages of an international regime but also has its own dissemination and demonstration effect on other participants.

Meanwhile, it is also not difficult to trace the narrative of a neo-liberal institutionalist approach in China in terms of international climate change politics. One of the reasons, this thesis argues, is that the neo-liberal institutionalist approach provides a clear and convenient framework to grasp and explain some crucial developments in this field since, no matter what human destiny will be, there is definitely some successful international cooperation based on the establishment and evolution of institutions, which provide a theoretical space for institutionalist involvement. Another reason is that due to the severe lack of critical voices in Chinese academia on account of climate change politics (which will be discussed in the following chapters), the application of a neo-liberal institutionalist approach is understandable since it only stays at the problem-solving level. Here, a similar problem from the realist approach appears again. That is, although most, if not all, Chinese scholars in this field do not position themselves as liberalists or institutionalists, they spend lots of time and energy describing and reviewing the establishment and development of international climate regimes whilst, at the same time, relevant methods, such as game theory, are widely applied to the analysis. While reviewing the development of China's roles in different stages of

international climate change negotiations, Zhuang *et al.* (2009) also point out that the establishment of certain international institutions helped to facilitate cooperation from developing countries, including China. The mechanisms of the carbon market can be treated as selective incentives to enhance the participation from developing countries. The institutionalisation of international climate change arrangements, from those crucial agreements, such as the UNFCCC and *Kyoto Protocol*, the annually held COP, bilateral and multi-lateral climate talks, can help to decrease the transaction costs (Zhuang *et al.* 2009: 203-211). As a result, the design and introduction of the CDM is a good example to show how global governance of climate change operates in one country (Zhuang *et al.* 2009; Zhu 2007). In terms of the process of climate negotiations, researchers based on the neo-liberal institutionalist approach tend to apply game theory as the analytic tool (Zhuang *et al.* 2009; Zhang 2009; Cui 2003). While analysing China in international climate change politics through an institutionalist perspective, the mainstream research focuses on the interplay between China and international institutions, including organisations and norms. As such, the research question will explore whether certain institutional designs and practices have promoted compliance from China and other developing countries (Zhao 2005; Lewis 2007; Vezirgiannidou 2009). Because of the emphasis on norms and rules, a constructivist approach has been taken on how China has learnt and internalised certain norms and has adjusted its own position in international climate negotiations through interaction with international NGOs (Schroeder 2008).

The reason, this thesis argues, why neo-liberal institutionalism has become the mainstream approach to international climate change politics is not because this approach has provided a solid theoretical framework; instead, it is because what has happened, or what can be perceived, in international climate change politics can be

depicted and explained by this approach to some extent. Just as Ward has mentioned, “[g]lobal climate change is characterized as a collective-action game played by nations through time. The conditions under which conditional cooperation can occur are explored” (1996: 850, in Newell 2000: 23). What matters is the description and definition of the essence of international climate change politics. When it is understood and framed as a ‘collective-action game’ in order to pursue public good in the end, it is nearly unavoidable to accept a neo-liberal institutionalist approach as the starting point for the analysis. However, it does not mean that this mainstream approach alone is enough to grasp the dynamics of international climate change politics, although it does challenge the neo-realist approach and, as such, provides the possibilities for international cooperation.

Paterson (1996a) has discussed a school of ‘cooperation under anarchy’ that shows a strong theoretical intimacy with the institutionalist approach. Game theory is the basic framework used in this school in order to explore the possible conditions for cooperation under international anarchy. Three factors need to be considered while pursuing international cooperation, which are mutual interests, the length of ‘the shadow of the future’ and the number of players (Axelrod and Keohane 1986, in Paterson 1996a: 101). The establishment and operation of regimes and institutions can help states, to some extent, overcome the obstacles to cooperation, which creates a theoretical space for neo-liberal institutionalism and game theory to converge in international politics. As a result, the compromises, negotiations, failures and successes in international climate change politics have demonstrated different ‘games’ being played by nation states. Practically, the huge numbers of states, regardless of other non-state actors, which do not gain sufficient attention in this approach, make it difficult to pursue a successful game in international climate change politics. The deeper theoretical

problem, this thesis argues, comes from the underlying assumption of the rationality of states in order to fulfil their strategic goals. Just as the realist's problem is to assume fixed national interests, the assumption of predetermined rationality and the following *gains* to be pursued by states neglects the dynamic process at both international and domestic levels and in different periods as well. The instrumental understanding of the 'rationality' in the neo-liberal institutionalism and game theory fails to grasp the structural dynamics and again, the 'rationality' is treated as a fixed existence. In other words, while rationally calculating the gains and interests in different games, both neo-liberal institutionalists and game theorists fail to explore where these interests and preferences are from and the possibilities of changes of interests based on the changes of political rationalities. The 'calculations of gains' of different states are embedded in different historical contexts, this thesis argues.

Returning to liberalist tradition in IR, its theoretical deficiencies emerge when it encounters international environmental politics. Metaphysically, the liberalist approach tends to pursue international peace and order, which is based on utilitarianism, through free trade and 'technocratic managerialism' (Laferrière and Stoett 1999). This functionalist tendency has demonstrated itself in the analysis of the neo-liberal institutionalist approach and regime analysis. However, as Paterson criticises, regime theory reflects a 'value-neutral language of positivist social science' or, in other words, that will tend to believe regimes are benign and can *in principle* provide adequate solutions to global environmental change (Paterson 2000: 15). Young's institutionalist analysis also fails to explain how a particular agenda was set up; although he does notice that there are at least three stages in the overall process of regime formation: agenda formation, negotiation and operationalisation (Young 2000b). It is true that neo-liberal institutionalism has contributed a great amount of analysis in international

environmental politics in different areas. However, the problem is that no matter how dominant this approach is, it still avoids explaining the causes of contemporary global environmental change (Paterson 2000), and thus it restricts itself at the problem-solving level. Meanwhile, neo-liberal institutionalism has brought about a liberal interpretation of global environmental politics. By transforming the ‘environment’ as a manageable and calculable object, it could be tackled through institutional designs and operations. “Environment economics will become an integral part of the calculus of decision-making and will be crucial to decisions on resource management” (Smith 1996: 34). Bernstein also mentions that “liberal environmentalism predicates international environmental protection on the promotion and maintenance of a liberal economic order” (2002: 1). The solution to international environmental problems, for the neo-liberal institutionalist, lies in the establishment, or extension, of a (free) market in which environmental objects are regulated, managed and traded technologically. Environmental politics, through the operation of neo-liberal institutionalism, is depoliticised politics.

Moreover, Paterson also points out that neo-liberal institutionalism tends to assume the separation between politics and economics. Each sphere has its own autonomy and this autonomy should be preserved. Consequently, the state has its own autonomy to pursue predetermined national interests. This naïve assumption has underestimated the influence of large corporations, especially those in the energy sphere that are involved in the decision-making process. Another criticism of neo-liberal institutionalism is that this approach only treats international institutions as the outcomes of state (inter)actions, rather than a constitutive structure which is able to produce symbolic meanings (Paterson 1996a: 130-133). For Newell, the problem of the regime approach comes from (1) its generalisable hypotheses that apply across areas; (2) the unitary actor

analysis which assumes the interests are given; (3) an assumed rationality about a states' choice of cooperative strategies; (4) a separation between domestic and international politics; and (5) lack of attention to non-governmental actors (Newell 2000: 26-29). Both criticisms from Patterson and Newell demonstrate the theoretical limitations of neo-liberal institutionalism that no matter how progressive and optimistic this approach has been shown to be, it is deeply rooted in the traditional IR perspective. The state remains the most legitimate player in the international arena where national interests are predetermined. In addition, clear separations exist between state and market, and between domestic and international remain valid; institutions are benign and neutral; and experts have confidence in advanced technologies and knowledge. It is undeniable that the development of international climate change politics has witnessed the applicability of the neo-liberal institutionalist approach in many dimensions. Nevertheless, metaphysical limitations have prevented it moving further to reflect its basic assumptions, to question those 'naturalised' categories, such as power and knowledge, and to take non-state fields and actors into serious consideration.

2.3 Social Constructivism

Due to the failure to predict the sudden end of the cold war in the late 1980s, the weakness of mainstream IR approaches, including neo-realism, neo-liberal institutionalism, and scientific behaviouralism, has been exposed. The controversies between positivism and post-positivism quickly became the theme of the third great debate in the IR discipline. Different from the previous two main debates, this debate focused on the ontological and epistemological levels. Under the name of 'post-

positivism' gather a variety of challenging approaches, such as feminism, critical theory, post-colonialism, and post-modernism. The reflections from this debate also brought the emergence of social constructivism in the IR discipline.¹⁹ Far from mainstream understandings in which anarchy is treated as a fixed and objective existence, Alexander Wendt, the leading figure in the constructivist approach, argues that anarchy is made of by the state (1992). The deep structure of anarchy is "cultural or ideational rather than material" and different cultures of anarchy are based on "different kinds of roles in terms of which states represent Self and Other". As a result, three different cultures of anarchy, which are Hobbesian, Lockean, and Kantian, represent three different logics, identities, and roles of the state (Wendt 1999: 246-312). For neo-realism, international structure is the consequence of the distribution of material forces, however, constructivism moves beyond material level and claims that the international system is a social structure which consists of shared knowledge, material resources, and practice (Wendt 1995). Identity, norms, meanings, and social practices are thus the core factors to shape national interests and behaviours, and the essence of the international system.

Although Wendt recognises anarchy as the status of the international system and the states as the main actors within it, he challenges the fixed assumption of the anarchical international structure by neo-realism. The logic of Hobbesian anarchy is 'the war of all against all' that actors within this structure treat each other as the enemy. To pursue survival through military means is the primary target of different states and security is thus a 'zero sum-affair' (Wendt 1999: 251-266). The logic of Lockean anarchy is based on the different role structures in which states are in a mutual-rivalry relation. Within this anarchy structure, rival states try to pursue security instead of power, which makes the limitation of violence and war possible in the international system. The sovereignty

¹⁹It is arguable that if social constructivism can be treated as a post-positivist approach. A strong version of constructivism does have the potential to work with post-positivist approaches, which will be discussed later.

of state is respected and recognised and rival states compete with each other, rather than conquering or dominating other states (Wendt 1999: 279-296). The Kantian logic of anarchy is based on the role structure of friendship. States within this structure seek to pursue security through cooperation and negotiation, rather than raising war against each other. A security community is established through the efforts of different states, in order to provide collective security (Wendt 1999: 297-307).

Regarding the relation between the agent and structure in the international system, constructivism also holds a different position from both neo-realist and neo-liberalist approaches. On the one hand, the constructivist approach argues that national interests are not fixed and pre-determined and the international structure does not exist independently beyond the practices of agents, as both mainstream approaches assume. Instead, the formation of identity which is influenced by the structure plays a crucial role determining the interests and behaviours of different states. On the other hand, the intersubjective practices of states can also influence the formation and change of structure. Based on shared knowledge through interactions among states, different cultures, such as the cultures of anarchy, can be created in an international system. In other words, the agent and structure are mutually-constitutive in that neither the identity and interest of the agent nor the formation and content of the structure can be treated as fixed materially. As a result, the change from one international system to another is not based solely on the change of material forces, instead, the interactive practices among actors can shape new identities, interests, and go further in constructing a new international system.

In summary, constructivism emerges from the third great debate in the IR and has emphasised the significance of idea, identity, and norms in the formation and changes of international systems. This approach has provided a new perspective and framework for

research on different IR issues. When it is brought into research on international/national politics of climate change, constructivism shifts to focus on the “dialogue between knowledge and power found in the social construction of climate change” (Pettenger 2007b: 1). The meaning, the existence, the science, the knowledge, and the solution of climate change should be understood “from the context of social settings” (Pettenger 2007b: 3). The ideational and material factors are not mutually exclusive in that constructivist moves to examine “how material realities gain meaning through social interaction”. Meanwhile, the agent/structure duality becomes ‘recursively co-constituted’. This analytical emphasis makes constructivism capable of understanding the process and change. (Pettenger 2007b: 6-7).

Pettenger further points out that there are two constructivist approaches, one is norm-centred and the other is the discourse analytical perspective. A norm-centred constructivism is usually treated as ‘soft’ constructivism as it stands closer to rationalism and positivism. Norms are treated as ‘conceptual tools’ to examine the construction of international politics in which states are guided by “norms that define the identities.....and the formal rules and accepted practices of the international game” (Farrell 2002: 52). Norms thus have a ‘causal force’ shaping actor’s behaviours and this norm-based approach focuses on *why* actors have certain behaviours (Pettenger 2007b: 10). Different from the soft version of constructivism, a discourse analytical perspective of constructivism is inspired by critical theory (Oels 2005; Paterson 2001; Hajer 1995; Litfin 1994; Onuf 1989). The main task of this approach is to reveal “how shared meanings are privileged or marginalized in social settings” (Pettenger 2007b: 10). As a result, this approach based on discourse analysis moves to examine *how* certain discourses emerge and the power/knowledge formation during the process. It is obvious that the soft version of constructivism is closer to the liberalist tradition, such as neo-

liberal institutionalism and interest-based regime analysis. Nevertheless, the hard version leans to the critical approaches, such as critical theory, critical IPE, and Foucauldian approaches. The middle ground where constructivism stands, as Wendt proposes (Wendt 1999: 3-4), has created the potential for this approach to be employed by different academic traditions in the IR discipline.

As discussed earlier, a soft version of constructivism can be merged into the liberalist tradition and the epistemic community approach as well, when it is about information sharing and norm building. Like the mainstream neo-liberal institutionalist approach to the international politics of climate change, this soft version of constructivism has contributed to the examination of how certain international norms emerge and how these norms were translated into domestic politics in different countries (Cass 2007, Hattori 2007, Fogel 2007). Such norms include environmental protection, the reduction of GHGs, energy efficiency, and sustainable development. This research not only brings non-material factors to the stage of emergence and the diffusion of international climate change norms, but also emphasises the dynamics between domestic and international levels, which are neglected by the realist tradition. As Cass (2007) argues, based on case studies in the US, Germany, and the UK, international norms can influence domestic responses significantly in terms of transnational environmental problems; whereas ‘domestic political norms, institutional structures, and material variables’ can also influence the ‘translation of international norms into domestic political dialogue and policy’ (2007: 48). It is obvious that this norm-based constructivist approach can contribute to the liberalist agenda.

While taking discourse analysis into account, the constructivist approach has developed different perspectives on the formation of certain norms of international climate change politics. Backstränd and Lövebrand have analysed three major

discourses: green governmentality, ecological modernization and civic environmentalism (2007). They point out the dominance of the previous two discourses in international climate change governance which has excluded voices from the grassroots. A more detailed discussion on green governmentality will be made in the Foucauldian section later. In short, they contribute to exposing that there exist contesting discourses and norms in international climate governance and that each discourse has its own assumed preferences and underpinning governmental rationalities. This exploration also helps to bring alternative voices into the debate. To radicalise the constructivist approach, Paterson and Stripple focus on the phenomenon of (re)territorialisation in international climate change politics, which has not been paid sufficient attention. From this perspective, the whole process of international negotiations and the following outcomes to distribute the national mitigation target and the national carbon sink has reaffirmed the state as the dominant actor who can manage and control, and claim the monopoly of natural resources within its boundary. The process of (re)territorialisation has indeed territorialised, rather than individualised, the carbon consumers around the world (Paterson and Stripple 2007: 160). The inequality in international climate change negotiations has not been solved through the consolidation of sovereignty over natural resources. Instead, according to Paterson and Stripple, it is where the theme of the 'Empire' emerges. The carbon sink was allocated nationally, following which the understanding of how to manage such sinks has served a 'universal order' (2007: 162) through market mechanisms, such as the CDM. It is the 'global gaze', which standardises the people and the natural world (Fogel 2004), as well as the reterritorialised control of the South by the North (Paterson and Stripple 2007: 162). This explanation helps clarify the contradiction between the efforts to establish a global carbon market, backed by the capitalist perspective and neo-liberal governmentality, and

the reaffirmation of the territoriality of the nation state. In other words, both Backstr nd and L vebrand (2007) and Paterson and Stripple (2007) have questioned the underlying assumption, preference, bias, and rationality of dominant forms in global climate governance in which states and non-state actors are involved. These contributions can be connected to the efforts made by critical approaches to challenge the global liberal project and relevant governmentalities which have framed the ‘right disposition of things’.

As discussed in the last section, it is not unusual to have liberalist approaches to China’s politics and governance of climate change. Considering the intimacy between the constructivist and liberalist approaches, the soft version of constructivism can also be found in the discussion of this field, in order to analyse how certain norms were disseminated to China, and under which circumstances did China internalise these ideas and norms. Schroeder (2008) applies this soft constructivist approach to analyse the influence of transnational and Chinese NGOs on China’s climate change politics. By combining the ‘spiral model’, she has examined the role of international and Chinese NGOs as norm advocates. In terms of China’s climate change politics, she has reviewed the impacts of this advocacy network in different phases: from the phase of ‘no debate’ (1949-1986), the phase of denial (1987-1990), the phase of tactical concessions (1991-2001) to the phase of prescriptive status (2002-present). International and Chinese NGOs have made contributions in the field of information dissemination, public education, media campaign, business/government cooperation, shame campaign and research and policy advisory. Schroeder explores how the diffusion of knowledge and information has played a more important role than the shame campaign does in the course of internalising international climate norms into China, which has transformed China’s behaviour in international climate negotiations. Chinese researchers also

emphasise how the changes to China's identity and self-positioning have influenced China's strategies in international climate negotiations since the 21st century. To identify itself as a 'responsible power' in international politics, China is willing to play a more active role in global climate governance (Yan and Xiao 2010a: 88-89). The changes in China's stances in different stages of international climate negotiations have demonstrated the subjective dimension of national interest.

The hard constructivist approach based on discourse analysis is also applied by some Chinese scholars. In order to fulfil the principle of equity in international climate talks, the theme of Empire and imperialism has been brought into account (Yu 2010). The global climate change regime which does not maintain the principle of 'common but differentiated responsibilities' is treated as imperialist governance, and this is the continuation of the imperialist international system (Yu 2010: 90-93). Although the theme of the Empire is raised, the primary concerns between Paterson and Stripple (2007) and Yu (2010) are different, this thesis argues. The former focuses on the reterritorialisation in global climate politics and points out the phenomenon of reterritorialised control of the South by the North. It is an invisible global empire universalising the ways to tackle climate change. Whereas the concern of the latter still focuses on the unequal structure and treatment in international climate change politics, which refers to the distribution of the reduction obligations. China's aim in international climate change politics is not only to protect its own national interests, but to enhance its discursive power and to establish a fairer international climate regime (Yu 2010: 94). 'To pursue the discursive power', such as to point out the differences between luxurious/wasteful emissions and emission for basic need (Pan 2004), has become one crucial task for China in international climate change negotiations (People's Daily 2010a). Nevertheless, this hard constructivist approach has not been widely accepted in

Chinese academia and most of the time it is incorporated into the perspectives of the critical international political economy, which will be discussed in the next section.

In summary, constructivist approach has brought a new research agenda focusing on ideas, identities, practices and norms into the IR discipline, including the research of politics and governance of global climate change. It also helps the researcher to pay attention to the transformations and changes in international culture and the system. However, one of its disadvantages is that there is no consensus on epistemology and methodology within constructivism. Ruggie (1998) classifies constructivism as neo-classical constructivism, postmodern constructivism and naturalist constructivism; whereas Katzenstein *et al.* (1998) classify it as traditional constructivism, critical constructivism and postmodern constructivism. Wendt also has his own classification of constructivism which includes modern constructivism by Ruggie, postmodern constructivism by Ashley, feminist constructivism by Tickner and his own constructivism which aims at bridging the previous three and rationalism (1999). Each strand of constructivism, no matter which classification they fall under, has its own ontological assumption and theoretical concern, which makes it difficult to find a coherent constructivist approach in international politics, including the politics and governance of climate change. As discussed earlier, the soft norm-based constructivism can be integrated into liberalist tradition while the diffusion and internalisation of ideas and knowledge are taken into account. Since neo-liberal institutionalism is one significant mainstream approach in analysing global climate politics, it is not difficult to have this soft constructivist approach as a supplement of this mainstream. On the other hand, the hard version of constructivism based on discourse analysis focuses on exposing the underlying assumptions of mainstream approaches by questioning the role of knowledge and its relation with power. As a result, this hard version is likely to be

merged into critical IR approaches, which examine the power structure of global climate change governance, the bias during the process of forming ideas, identities and norms, and the excluded alternatives. Standing on the middle ground has provided different constructivist strands the opportunities to work with different IR approaches; nevertheless, this fact also demonstrates the difficulty to have a coherent, if not solid, constructivist approach to global climate politics.

The divergent assumptions within constructivism makes the theoretical conflicts occur more between different constructivist strands, rather than between constructivist and other IR approaches. Wendt's constructivism has adopted many rationalists' assumptions on the international system. For him, international anarchy is recognised and the state is still treated as the basic unit of analysis, as neo-realist and neo-liberal institutionalists claim. This thesis argues that this claim by Wendt has caused the limitation of his constructivist analysis and that the further question to the state formation, the relevant knowledge, and the underpinning power structure are neglected. Just like different cultures and practices of international anarchy, this thesis argues that the emergence, dissemination and consolidation of a certain form of state and state system should not be treated as fixed and pre-determined. The phenomenon of 'reterritorialisation' in global climate change politics (Paterson and Strippel 2007) actually reflects the constructed essence of territoriality which is assumed to be attributed to the nation state. The soft norm-based constructivist approach, working with neo-liberal institutionalist approach, help depict the process of the formation and dissemination of knowledge, ideas and norms at domestic and international climate politics. However, how these structures, norms, knowledge, identities, interests and even units of analysis are established, based on different power relations, needs to be analysed more fundamentally, which the hard constructivist approach, based on

discourse analysis, has engaged. This radicalised version of constructivism can be found in critical IR approaches, which will be discussed in the following sections.

2.4 Critical International Political Economy

This section discusses the main variants of the critical IPE approach including dependency theory/ world systems theory, the Marxist ecologist approach, and the neo-Gramscian approach in the IR discipline. This critical tradition has many branches with different concerns but one of the common features is the disclosure of structural forces and causes while analysing the interplay between the fields of politics and economy.²⁰ Regarding the relation between the state and the market, there exist traditional approaches. Mercantilism emphasises the dominant role of government/politics over the market/economy. The state remains the main actor in the international arena and the purpose of economic activity is to enhance and pursue state power (List 1966). This strand has influenced the following research on the mode of ‘development state’ (Amsden 1989, Johnson 1982, Wade 1990). In general, mercantilism treats international trade and the economy as a zero-sum game and that the growing of international trade cannot prevent conflicts among the states. As a result, international trade should be integrated into national security. Meanwhile, mercantilism objects to international free trade since it is beneficial to the industrialised countries, not the late comers in the international economy. There also exists a liberal strand in the IPE approach, which sheds light on the economic and private sectors, and claims that an economy is an autonomous sphere with its own rational logic. This long lasting tradition, which started with Adam Smith in the eighteenth century, emphasises the superiority of the market

²⁰Another interchangeable label of this school is ‘global political economy’ (GPE), which emphasises the global dimensions over an ‘international’ one (Gill and Law 1988, in Palan 2000: 1).

economy over politics and that governments and states should not interfere with the economic sphere and should respect economic law. In summary, liberal IPE treats international trade as a positive-sum game and the development of international trade brings interdependence which will decrease the possibility of war and conflicts. As a result, liberal IPE supports and promotes free trade and objects to governmental interferences. The critical strand in IPE came from the Marxist tradition. By applying historical materialism to the analysis, this approach points out that states are not autonomous entities anymore; rather, it is the structure of *world capitalism* that is directing states to maximise the profits of the capitalist class. As a result, class conflict, within and across borders, is the driving force behind international politics. The state and state systems play only a secondary role (Palan 2000:6). The structure of economic life, including the means and modes of production, social relations, social forces and property regimes, play a dominant role in determining the political settlements. The Marxist tradition in IR constantly provides a critical and structural perspective to explore the underlying forces of capitalism in the world economy. Wallerstein's theory of the world system (1974) and the strand of dependency theory (Frank 1967; Amin 1976) have developed their critical voices against world capitalism. This tradition also enlightens critical theory and critical IPE in IR and revises itself when applied in broader areas. Generally speaking, critical IPE based on Marxian tradition argues that international trade will bring international inequality which benefits industrialised countries only. Less developed countries will become more dependent on industrialised countries.

This critical tradition is also influenced by critical theory in IR, which has been inherited from the Frankfurt School and it

[S]tands apart from the prevailing order of the world and asks how that order came about. Critical theory, unlike problem-solving theory, does not take institutions and social and power relations for granted. (Cox 1986: 207-208)

This quotation from Cox has clearly pointed out the theoretical concerns of critical theory, which is to challenge those taken-for-granted categories, measures and worldviews. Moving beyond problem-solving concern, it aims to question how certain problems are formed, evolved, and understood. As a result, a structural and historical reflection becomes necessary.

Another influential strand of this critical tradition is the neo-Gramscian approach. While discussing the (global) hegemony, different from the HST, the neo-Gramscian approach claims that hegemony cannot be understood as a single powerful and dominant state (Cox 1981; Gill 2008). By extending the theoretical concerns to civil society, the historic bloc, organic intellectuals, the passive revolution, hegemony and counter-hegemony, this approach has helped explain how the ruling class consolidates its power through the establishment of consent. The main themes of the neo-Gramscian approach in the IPE include commodification and the deepening of capitalist relations of production (Pijl 1998), the political articulation of class interests, forms of state, transnational hegemony (Gramsci 1971), internationalisation of the state (Cox 1987), new constitutionalism (Gill 1995) and counter-hegemony. Moving beyond economic or material determinism, this approach has broadened the understanding of the causes of dominance and the sources of possible resistance. Civil society, which represents liberal rationality, has become the battleground of ideologies, hegemony and counter-hegemony, both domestically and internationally.

Emerging from the debate between positivism and post-positivism in the IR

discipline, the neo-Gramscian approach has made efforts to explore how existing world order is established with relevant institutions, norms and practices. The ultimate purpose is to pursue the emancipation of humans in that “theory is always for someone and for some purpose” (Cox 1981: 128). The study of hegemony is a crucial contribution in this approach. The social relations of production are analysed in order to examine the mechanisms of hegemony (Cox 1987). “The production and reproduction of knowledge and of the social relations, morals and institutions that are prerequisites to the production of physical goods” (Cox 1989: 39) thus enters the research agenda. Also, the state is no longer treated a fixed and pre-determined like-unit in the international arena; instead, the historical aspects are taken into consideration to examine different forms of the state which reflect the different social contexts of power struggles constituting different historic blocs. Civil society becomes a necessary research target in order to understand the operation of hegemony. Moreover, once hegemony has been established and consolidated nationally, its social relations of production may expand to the international arena and become a world order (Cox 1987: 149-150). International organisations are involved in facilitating the expansion of certain social relations of production.

In short, neo-Gramscianism develops itself from the critical strand of IPE influenced by Marxism. It has raised its critiques of mainstream neo-realism and neo-liberal institutionalism by emphasising (1) refusing the dichotomy between subject and object; (2) refusing the dichotomy between state and civil society with traditional IR approaches; (3) refusing the value-free assumption; (4) the importance of the agency to change or maintain the structure or to constitute anti-hegemony forces; and (5) refusing methodological individualism and reductionism (Cox 1996a: 205-212). What neo-Gramscianism seeks is the ‘dialectic totality of structure and agency’ (Overbeek 2000:

169). Meanwhile, compare to classical IPE theories, including mercantilism and liberalism which focus on the relations between state and the market, neo-Gramscianism argues that the political economy should be the object of analysis. The fields of politics and economy are no longer treated as separated (Cox 1996c: 144-145, Rupert 1993). The emphasis on world order and transnational relation by neo-Gramscianism also differentiate it from mainstream IR research on international relations (Cox 1996a, 1996c; Overbeek 2000).²¹ The emphasis on the non-material factors also makes neo-Gramscianism different from classical Marxist IPE. The rediscovery of the significance of ideology and civil society in class struggle by Gramsci has also helped neo-Gramscianism move beyond economic and structural determinism. As a result, neo-Gramscianism has developed its research through the historical structure consisting of material capacities, institutions and ideas and this framework can be applied to the analysis of social forces, forms of states and world orders (Cox 1996a). Cox has clearly rejected the ahistorical positivism in the IR discipline and claims that institutions are created through intersubjective ideas and practices which should be grasped through historicism (1996b).

The non-positivist and non-deterministic aspect of the neo-Gramscian approach not only makes it move beyond a ‘problem-solving’ perspective, but also leaves space for it to work with the Foucauldian approach. Gill has made an attempt to integrate the neo-Gramscian and Foucauldian approaches when he discusses ‘market civilisation’ and ‘disciplinary neo-liberalism’ (2008). The emergence of market civilisation relates to cultural transformation, which brings a new ‘common sense’ to legitimise the ‘long-term commodity logic of capital’ (Gill 2008: 124). Disciplinary neo-liberalism, a very Foucauldian term, takes the relations of power and knowledge into account and refers to

²¹ Overbeek (2000) points out that the term ‘transnational relations’ was introduced by Keohane and Nye (1971). Nevertheless, Overbeek states that Keohane and Nye (1971) still focus this concept on the actor-oriented level. He argues that transnational “must be distinguished from inter-national, supra-national, and global” (Overbeek 2000: 182).

a concrete form of structural and behavioural power, combining the structural power of capital with ‘capillary power’ and ‘panopticism’ (Gill 2008: 137). When this disciplinary neo-liberalism is institutionalised internationally, the ‘new constitutionalism’ appears to protect and consolidate the corporate capital. Discipline and surveillance of the public, in order to maintain obedience, has formed the new global panopticism associated with technology and knowledge of social control. Gill also points out, following Polanyi’s thesis, that this neo-liberal project is self-contradictory and will induce counter-hegemonic resistances as social inequality grows. Gill has criticised the limitations of the Foucauldian approach when explaining social transformation and the emergence of resistance (2008).

In general, although there are many branches in this critical IPE tradition, the common research interest is to historically reflect on and re-examine existing knowledge, institutions, political measures and power relations in order to disclose the underling structure(s) and forces. In terms of international environmental politics, Broadhead (2002) points out that mainstream realist and liberalist approaches to international environmental politics are based on four assumptions: (1) the role of instrumental logic; (2) market structures; (3) the concept of sustainable development; and (4) green diplomacy. Therefore, a critical perspective in global environmental politics aims at examining the interrelations of these assumptions. The way of framing environmental problems and solutions is never neutral. Instead, it reflects ‘particular standpoints, values, and preferences’ (Stavis and Assetto 2001b: 2). Paterson argues that three primary questions have to be taken as central to the study of global environmental politics: (1) the production of environmental problems; (2) the differential effects of environmental problems on a variety of categories (class, nationality, race, gender); and (3) responses to these problems (2000: 3). Saurin also claims that research on global

environmental politics should focus on the ‘production of environmental degradation’ (1996: 81) and that researchers should be careful of the risk of reducing the global environmental changes to a set of discrete ‘environmental issues’ (1996: 78). Based on the critical IPE approach, Irwin argues, after exploring the development of the concept of ‘sustainable development’, that solving environmental problems can be easily reduced to the problem of managing resource scarcity, which is in favour of quantitative, objective, differentiated and directional knowledge. He concludes that it is through historical and political struggle that the global environmental order is constituted (2001: 36-37). For these researchers, issues appearing on the international agenda did not come from a vacuum; instead, the *production* and *reproduction* of certain knowledge and ‘truths’, and the material and historical contexts behind this process together influence how people and states understand and operate in international environmental politics. The separation between politics and the economy, which appeared in realist and liberalist political economy studies, has narrowed the research agenda to the assumed ‘economic’ spheres and set up the wrong questions.

While discussing the relationship between the IPE and global environmental change, Williams points out that global environmental change is intimately linked to the national and international systems of production distribution and consumption (1996: 49). He thus argues that environmental degradation arises from the capitalist mode of development, “environmental degradation is seen as the direct result of the processes of accumulation, production and reproduction central to capitalism” (1996: 51). Accordingly, the popular term ‘sustainability’ in international environmental politics should be situated in the dynamics of capitalist industrialisation and development (1996: 54). By criticising the mainstream approaches in IR, which try to resolve the environmental crisis through market forces behind the concept of ‘sustainable

development' applied in 1992 at the Rio Earth Summit, Foster argues that sustainable development depends on the "privatization of the commons and the assignment of monetary values to parts of the environment...a process that has been termed 'costing the earth'" (2002: 56-58). The realms of ecology and capitalism are essentially opposed to each other (Foster 2002: 7). As a result, it is pointless to tackle international environmental degradations without paying attention to the structural cause, *capitalism*. In summary, these critical approaches, based on insights from Marxism and critical theory, try to provide a structural and historical perspective to re-examine the long-term causes of global environmental change and to search for more feasible solutions based on these findings. Social forces and the relation of production under the capitalist context should be taken into account in order to grasp the dynamics of global environmental changes. These critical theorists made the effort to expose the depoliticisation trend in the mainstream approaches, in which the (capitalist) power has not been paid enough concern theoretically, and international institutions are treated as neutral establishments. Global environmental governance thus should be located "within broader patterns of governance designed to promote (and manage) the globalisation of the economy" (Newell 2008: 511). As a result, critical IPE scholars have raised entirely different concerns regarding international environmental politics. On account of the norms and rules in international environmental politics, Newell asks the question, '[w]hose rules rule?' (2008: 514). Far from mainstream interpretation, environmental change does not represent "interstate collective action problems, nor in a set of *ad hoc* trends, but in the internal dynamics of both systems of accumulation and exploitation and systems of domination" (Paterson 2000: 5).

As a result, when human beings face threats of global climate change, what should be taken into account is not just the international politics and governance of climate

change. Instead, the political economy of global warming/climate change based on historical materialism (Paterson 1996a) should be the focus of relevant research. The historical materialist approach allows researchers to transcend the division between domestic and international levels, to discuss normative questions and to bring the development of capitalism into analysis (Paterson 1996a: 7). Paterson also discusses historical transformations within the world political economy, which are the shift from Fordism to flexible accumulation, the processes of globalisation and the move towards neo-liberalism as the hegemonic project of transnational capitalist classes. Consequently, the first and second transformations appear as a new mode of ‘competition state’, which causes the dismantling of welfare states in the West (1996a: 168). Moreover, under the ideology of neo-liberalism, new concepts, such as ‘ecological modernisation’ and ‘sustainable development’, were introduced and legitimised as the most suitable and feasible way to tackle environmental problems within the framework of growth imperative (Paterson 1996a: 169). Capitalism as a structural power has successfully limited many state decision-makers to take ‘cost-benefit’ and ‘profit’ concerns into consideration. At the same time, the logic of capital accumulation also aggravates the international inequality between the North and the South, which later framed the basic confrontations in international climate change negotiations. In short, from Paterson’s argument, the (critical) political economy approach, based on historical materialism, is able to provide a more comprehensive understanding of global climate change politics and, meanwhile, he also points out the importance of structural power. “The structure of anarchy is a secondary consideration to that of the structural constraints imposed by world capitalism” (Paterson 1996a: 176).

The mainstream liberal project has installed itself in the measures to tackle climate change internationally. Taking the three flexible mechanisms in the *Kyoto Protocol*

(Joint Implementation, Emissions Trading and the Clean Development Mechanism) as examples, they work on the same basic principle; that is to assign property rights to emissions and to create carbon markets in which GHGs emissions are allowed to be transferred and traded. It is apparent that the response from neo-liberal institutionalists in IR to global environmental issues, especially climate change, is a process of *rationalisation*, from institution foundation and incentive design to merchandising 'nature'. Atmosphere and GHGs emissions have been commodified in newly formed global carbon markets in which cost efficiency and profit maximisation are the primary concerns.

By emphasising the mode of capitalist consumption as the cause of the present climate change problems, Pan differentiates between the luxurious/wasteful emissions and emissions for basic needs satisfaction and criticises Western stances in international climate change negotiations when they request developing countries to bear binding commitments of emissions reductions (2004).²² As a market design, the CDM has attracted many criticisms because it only serves major players in the carbon market, enabling them to maximise their profits, rather than promoting sustainable development in host countries (Redman 2008; Pearson 2004). The CDM in developing countries, especially in China, is a well-operated institution in terms of climate change. However, what the critical approach finds out is that this market mechanism could not fulfil the targets of emissions reduction, but merely creates another market for the profit-seeker. The practices of the CDM, which makes neo-liberal institutionalists so proud (Depledge and Yamin 2009) just represents itself as another sphere of capital accumulation.

While the structural and historical contexts are critically taken into account in international climate politics, the concepts of 'fairness', 'justice', 'equity' and

²²It is uncertain if Pan takes a political economy approach as his theoretical framework. However, as one of the leading scholars on China's climate politics, what he proposed does reflect the structuralist and historical explanation of current climate change problems, which should be attributed to the production and consumption of global capitalism. This approach is popular among developing countries.

‘sustainable development’ are raised in the politics of North-South relations (Agarwal and Narain 1991; Shue 1993; Grubb 1995; Singer 2002; Roberts and Parks 2007; Soltau 2009). There are three main concerns: (1) Whose responsibility? (2) Who pays? (3) Who bears the costs? (Bulkeley and Newell 2010). Considering the responsibility of global climate change from a historical perspective, the world is split into two parts: developed countries and developing countries that the developed world, the North, is requested to bear the main responsibility for, or ‘ecological debt’ in other words. Due to the history of industrialisation, there exists the inequity of per capita emissions between developed and developing countries (Roberts and Parks 2007). Based on the differentiation of responsibility, the concept of ‘greenhouse development rights’ has been gradually developed (Baer *et al.* 2008) and right-based languages have been raised to the climate change debate (Humphrey 2010). Meanwhile, the developed world is also asked to provide funding for international mitigation efforts through the World Bank and the Global Environmental Facility. Moreover, considering that less developed countries will also be the most vulnerable ones to climate change, the developed world is also expected to support the adaptation measures in developing countries (Soltau 2009; Bulkeley and Newell 2010). Many disputes between the North and the South are developed around these key issues. “The issue of global climate change is fundamentally about injustice and inequality— in vulnerability, responsibility, and mitigation, as well as participation in the global economy” (Roberts and Parks 2007: 97). From this perspective, the cause of climate change is linked to the development of capitalism and industrialisation and poor countries will be more vulnerable if there is no international action to tackle climate change. As a result, justice and equality should always play core roles in international climate change politics. The North-South confrontation should be understood from a historical and structural perspective based on

the analysis of the critical political economy.

This approach also helps give a grasp on China's different strategies in international climate change negotiations. The concept of 'common but differentiated responsibilities' has been always the primary concern for China in multilateral climate change negotiations, especially when China locates itself as part of the developing world, namely the G-77 plus China. This concept has brought two dimensions into debate: historical responsibility and the per capita emissions, or greenhouse development rights (Baer *et al.* 2008). As discussed in the last paragraph, the historical dimension has identified the main cause of present climate change problems, which is the accumulated concentration of GHGs, mainly carbon dioxide, from the industrial revolution since the mid-18th century. Consequently, this concept points out that the production model, based on fuel energy in the industrialised world, should be responsible and the developed countries should firstly take action to tackle climate change.²³ This position is consolidated in the Declaration of South Summit by G-77 and China in 2000:

We believe that the prevailing modes of production and consumption in the industrialized world are unsustainable and should be changed for they threaten the very survival of the planet.....We advocate a solution for the serious..... environmental problems facing humanity, based on the recognition of the North's ecological debt and the principle of common but differentiated responsibilities of the developed and developing countries (Group of 77 2000).

Besides historical responsibility, the G-77 and China also proposed that every human

²³ This thesis does not argue that the developing countries in international climate politics operate an anti-capitalism strategy. The developing world does point out the influences of the capitalist accumulation model in the developed world. However, what the developing world wants to pursue in the future remains obscure under the concept of 'sustainable development'. It is a concept ambiguous enough to incorporate market environmentalism and ecological modernisation (Adams 2001), which might lead to the pursuit of economic growth on the capitalist model.

on Earth has equal rights to the global atmosphere and equal allocations of pollution on a per capita base (Roberts and Parks 2007: 144). By stating that industrialised countries, with relatively small populations, have already produced a disproportionate amount of carbon, developing countries were legitimately able to fulfil their development needs in advance, since their per capita emissions were still far below world average.

Nevertheless, does the discourse above prove that China will always take strong and critical positions against the industrialised world in international climate change politics? Especially when China claims itself a socialist state, should it not be self-evident to take an anti-capitalist posture? The development and operation of the CDM in China tells another story. After the initial hesitant stage towards the CDM, China has taken the biggest portion of the CDM market in just five years. What interests this research is that from the government to the environmental NGOs in China, the criticisms of the CDM that were discussed in this section rarely appear in the Chinese public sphere. Domestically, there appears to be a trend that China is willing to accept the market mechanism as part of the governing tools to tackle climate change. This phenomenon seems to suggest that certain practices/mentality of the neoliberal institutionalist approach have materialised in China. At the same time, the complexity and the difficulty of applying a specific approach to address international climate change politics can be seen from China's case, which inspires further exploration in this thesis.

In summary, the varieties of critical IPE approaches have provided a strong challenge to the mainstream realist and liberalist approaches in international climate change politics, both theoretically and practically. These critical approaches have been applied to expose the capital force underpinning the formation of the international climate change regime, which benefits the capital holders (Egan and Levi 2001). It can also be

deployed as a negotiation tool for developing countries. However, this thesis argues that China's case has shown more complexities in this field. One key factor is the role of the state in this approach. Are state and state systems always second and therefore subordinate to global capitalism? Can critical IPE approaches comprehensively seize different discourses, strategies, and rationalities based on different, or uneven, developmental and historical paths of different states in international climate politics? Moreover, from the practices of North-South confrontation, it is also apparent that, even by identifying capitalism as the clear cause of climate change, an appeal based on climate justice hardly leads to a trans-boundary class coalition or counter hegemony movement on a global, or even regional scale. Rather, nation states still appear as the crystallisation of plural interests within concrete national borders.²⁴ The right to emit GHGs and the right to develop is still allocated on the basis of the state and state system. It is the 'geographies of responsibility' (Bulkeley and Newell 2010: 36) that underpins the politics between the North and South. Ironically, the state has resurged itself in global climate politics. It has consolidated its dominant role, instead of being only one of the agents for the operation of capitalism. Again, this thesis argues that it is risky to universalise the understanding of the state and state systems. Critical IPE approaches have made great contributions to bring historical and structural factors into account in order to grasp the dynamic material conditions and social forces underlining the contemporary world. Nevertheless, this thesis contends that the Chinese case has demonstrated the different rationalities underpinning its politics and the governance of climate change. In China, there are different paths and mentalities of state-building; moreover, a different understanding and expectation, or aspiration, of state and its

²⁴ This thesis understands that there are many non-governmental civic movements standing on this critical side of environmental politics, which appear as grassroots, community-based and transnational networks (Szasz 1994; Guha 1997; Schlosberg 1999; Shiva 2000). As a result, this thesis does not argue to disclaim the efforts and achievements from these civic movements. However, the state remains the dominant role in international climate change politics, not only from the practical operations, but also from the cognitive framework where the state becomes the dominant subject bearing expectations from different groups.

relation with society. These different historical developments and consciousness may lead to different state-society relations, social forces and imaginations of state.

Paterson argues that international environmental politics should be understood through four interrelated power structures: the state system, capitalism, knowledge and patriarchy (2000: 40-54). These power structures play crucial roles in the causation of global environmental problems. It is clear that Paterson does not cast capitalism as the only structure causing contemporary environmental degradations. By examining the state's need to extract the surplus from the people in order to raise war, the impact of war on the environment, the environmental displacement in a bordered world and the hierarchical ontology of the modern state, Paterson claims that environmental change was brought about by the state and state system. This thesis agrees that it is more comprehensive to incorporate different power structures in the discussion, instead of on capitalism alone. However, regarding the state and the state system, what appears in Paterson's argument is a rather static and fixed understanding. How non-Western people learn, practice, translate and become obsessed with the existence of the state should be reviewed contextually as well. This thesis does not contend to propose culture relativism or another theme of 'Chinese characteristics', but this thesis argues that an historical review and re-examination of how a state, either the entity or the concept, is formed and formulated is equally crucial to grasp the dynamics of the relationships between the state and global environmental politics. Besides the rationality of sovereignty which was developed through the specific path of state building, different rationalities should also be taken into account in order to comprehensively and critically examine how and why certain modes of politics and governance of climate change are established and transformed. In order to analyse and grasp how the 'rationality of government' is deployed in the governance, the next section moves on to discuss the

Foucauldian approach in the IR discipline.

2.5 Foucauldian Approach

This section focuses on the Foucauldian approach in the IR discipline and examines specifically the concept of ‘governmentality’. The aim of this section is to analyse how this Foucauldian tradition is deployed in environmental and climate change politics. Although there is no certain ‘Foucauldian’ School in the IR discipline, Foucault’s works have deeply influenced the ‘postmodern’ or ‘poststructuralist’ approach in IR. Postmodernists in IR are sceptical of the notions of ‘rationality’, ‘objectivity’ and ‘truth’ and treat theory as ‘narrative’ or ‘discourse’, which is intersubjectively constructed and, as such, has the potential to be deconstructed. Consequently, the neutrality of theory and institution is as problematical as other ‘truths’. “All power requires knowledge and all knowledge relies on and reinforces existing power relations...there is no such thing as ‘truth’ existing outside of power” (Smith 1997: 181). Postmodernist critiques in IR have challenged the anarchical assumption of neorealism, which demonstrates the ahistorical bias and, thus, fails to explain the change in the international system (Ashley 1996). Based on these deconstructive and post-rationalist themes, Foucault’s theory has been applied in three ways in IR: (1) to support critiques and deconstructions of realist international theory; (2) to analyse discrete discourses and practices of modern international politics; and (3) to develop novel accounts of our contemporary global liberal order (Selby 2007: 325-326). Meanwhile, comparing the Marxist and Foucauldian approaches, Palan concludes that

[T]he singularity of the class-based exploitative politics of traditional Marxism is giving way to the multifaceted and sometime subtle forms of exploitative politics, including the various discursive techniques which are viewed as expressions of power relations (2000: 7).

As a result, the Foucauldian approach in IR turns the research interest towards the various dimensions of power relations.

When this approach is applied to environmental politics, the research object turns to the discourse of the environment. ‘Environment’ should not be treated as a self-evident existence; rather, it appears as the target to be deconstructed. “Environmental politics becomes an *argumentative struggle* in which actors not only try to make others see the problems according to their views but also seek to position other actors in a specific way,” according to Hajer (1995: 53, italic added). The task of the research on environmental politics, therefore, is to analyse the story lines and discourse coalition behind mainstream discourse (Hajer 1995).²⁵ Based on the efforts to de-neutralise and de-naturalise discourse in environmental politics, Hajer has helped expose the symbolic struggle in the process of power/knowledge formation. Based on the Foucauldian and social constructivist approaches, Keeley also criticised regime approaches in international environmental politics that “lose a full sense of the world as contestable and contested” (1990: 84; in Newell 2000: 35). In short, the environment, the natural world, the international arena, the relevant knowledge and the successes and failures of international environmental politics should not be treated as taken-for-granted; rather, all these categories should be understood as contested and contestable arenas in which there exist struggles for meanings.

²⁵ “A story-line is a generative sort of narrative that allows actors to draw upon various discursive categories to give meaning to specific physical or social phenomenon” (Hajer 1995: 56). Discourse-coalitions can be defined as the ensemble of story-lines, involved actors and the discursive practices (1995: 65).

Besides discourse analysis, another influential contribution from the Foucauldian approach in the analysis of environmental politics is the concept of ‘governmentality’, or ‘governmental rationality’. Governmentality is the notion from Foucault and the concept was developed from the late 1970s until Foucault’s death in 1984. Foucault elaborated this concept in two of the lectures given at the Collège de France in Paris in 1978 and 1979, which were entitled *Security, Territory, Population* and *The Birth of Biopolitics*. In these two lectures, Foucault explored and demonstrated a new field of research, which was ‘governmental rationality’, or ‘governmentality’. Foucault also deployed this concept in other terms, such as ‘rationality of government’ and ‘art of government’. By shedding light on government, Foucault emphasised that research on government should focus on the governmental practices instead of state institutions. The government is not an activity or phenomenon monopolised by the state but it is ‘the conduct of conduct’ that is “a form of activity aiming to shape, guide or affect the conduct of some person or persons” (Gordon 1991: 2).

Government as an activity could concern the relation between self and self, private interpersonal relations involving some form of control or guidance, relations within social institutions and communities and, finally, relations concerned with the exercise of political sovereignty (Gordon 1991: 2-3).

Governmental practices should not be limited within state practices but “a plurality of practices...conducted within and across countless social sites; practices that are often contradictory and only ever partially coordinated” (Haahr and Walters 2005: 289-29). In short, far from mainstream IR approaches where the state always plays an unchallengeable and determinant role, Foucault had opened a new framework to analyse

government through plural and microgovernmental practices. To Foucault,

state is nothing else but the effect, the profile, the mobile shape of a perpetual statification or statifications, in the sense of incessant transactions which modify, or move, or drastically change, or insidiously shift sources of finance, modes of investment, decision-making centres, forms and types of control, relationships between local powers, the central authority, and so on (Foucault 2008: 77).

It is the governmental practices constituting and influencing the existence and the change of state, rather than the converse. The state, as a result, is just “the mobile effect of a regime of *multiple governmentalities*” (Foucault 2008: 77; italic added). Governmentality refers to “a way or system of thinking about the nature of the practice of government” and it is about the questions of “*who can govern, what governing is and what or who is governed.*” (Gordon 1991: 2-3, italic added) It is a regime of power, which is “the ensemble formed by...the calculations and tactics that allow the exercise of this very specific albeit complex form of power, which has as its target population, as its principal form of knowledge political economy, and as its essential technical means apparatuses of security.” (Foucault 1991b: 102)

Meanwhile, as Foucault’s previous and lasting concerns on the relations between power and knowledge (Foucault 1978), the concept of governmentality is also a ‘methodological maxim’ that “draws attention to the complex relationship between thought and government” (Larner and Walters 2004b: 2). Consequently, the research on governmentality is

[A] way of not taking as a primary, original, and already given object, notions such as the sovereign, sovereignty, the people, subjects, the state, and civil society, that

is to say, all the universals employed by sociological analysis, historical analysis, and political philosophy in order to account for real governmental practice (Larner and Walters 2004: 15).

The Governmentality approach also brings challenges to the perception of knowledge and ‘naturalness’. By separating this concept into ‘govern’ and ‘mentality’, or ‘mentalities of government’, Dean’s contribution serves to emphasise the role of ‘thought’ and ‘knowledge’ in the practices of government and to demonstrate how and what governed subjects interpret by the way they are governed:

An analytics of government thus views practices of government in their complex and variable relations to the different ways in which ‘truth’ is produced in social, cultural and political practices. On the one hand, we govern others and ourselves according to what we take to be true about who we are, what aspects of our existence should be worked upon, how, with what means, and to what ends...On the other hand, the ways in which we govern and conduct ourselves give rise to different ways of producing truth (Dean 1999: 18).

Therefore, ‘naturalness’ and ‘taken-for-granted’ should be questioned in the research on government and, by doing so, “it renders practices of government problematic and shows that things might be different from the way they are” (Dean 1999: 38).

When applied in the international arena, this approach has brought challenges to the approaches of neo-liberal institutionalism, regime analysis, and global governance. Global governance can be, and should be, seen as “a variant on such technologies of governmentality...to ensure the right disposition of things” (Lipschutz with Rowe 2005: 14). In contrast to the traditional understanding of government, governmentality

works through “self-disciplining and self-regulation on the one hand, and the disciplining function of surveillance and law on the other” (Lipshutz with Rowe 2005: 15). The phenomenon of ‘politics via markets’ in contemporary global governance demonstrates the dominance of neo-liberal governmentality, which is governance without politics, in a globalisation period. The neo-liberal way to govern demonstrates not only “direct intervention by means of empowered and specialized state apparatuses, but also...indirect techniques for leading and controlling individuals” (Lemke 2001: 201). The ‘self-regulated’ individual, or subject, is also a ‘responsible’ one where the responsibility for managing social risks has been transferred, from state to the individual. In other words, by applying a governmentality perspective, the question of global governance should be not just on how to reach ‘good governance’ but why global governance is understood through functional, technological and institutional approaches.

From a neo-liberal institutionalist’s point of view, global environmental governance is either introduced as a ‘world collective life’ through global civil society (Wapner 2000: 65); “coordination of action...through many different institutions including private social and economic ones” (Vig 1999: 5); or realised through the social institutions which are “arrangements designed to resolve social conflicts, promote sustained cooperation in mixed-motive relationships, and...alleviate collective-action problems in a world of interdependent actors” (Young 2000b: 4). These mainstream institutionalist perspectives place the emphasis on ‘problem-solving’ rather than ‘critical reflection’ in their analysis (Vogler 1996). The ‘efficacy’ of international institutions or regimes has become the core concern of this approach and, in this context, global environmental governance “has come to legitimise a neoliberal ecopolitics, characterized by a rehabilitation of the state, liberal-individual notions of justice, and a

technocratic emphasis on managerialism, standard setting and rules-based behaviour” (Elliott 2002: 58). There also embodies a process of normalisation and the normalising strategy of ecopolitics, which attempts to extend control, in terms of management, to the entire planet (Sachs 1999). Accordingly, the focus of contemporary environmental discourse is how to *manage* populations and resources in relation to their natural environments.

This phenomenon demonstrates the appearance of the concept, ‘green governmentality’ (Bäckstrand and Lövebrand 2007). Within green governmentality, which is related to enviro-discipline and eco-knowledge, the ‘right disposition of things’ between human and the environment is established and enforced (Luke 1999). By analysing the discursive framework of international climate politics, Bäckstrand and Lövebrand demonstrate three main discourses in this arena: (1) Green governmentality, which refers to science-driven and centralised multilateral order, associated with top-down climate monitoring and mitigation techniques implemented on global scale. (2) Ecological modernisation, which is a decentralised liberal market order, in order to search for cost-optimal solutions to climate problems and (3) Civic environmentalism, which represents the challenge force to the former two mainstream narratives (2007: 124). However, this thesis contends that green governmentality and ecological modernisation indeed converge together to constitute the main driven narrative of international climate politics, especially after the *Kyoto Protocol* was concluded in 1997. Green governmentality provides the kind of rationality, which aims at managing the global atmosphere *rationally* through scientific-driven policies, in order to secure the state, especially the welfare, of its population. Meanwhile, ecological modernisation embraces a liberal economic order, which claims to be a flexible and cost-effective way of governing the environment and climate (Bäckstrand and Lövebrand 2007: 127).

Superficially, it seems these two discourses are in contrast to each other, since the former focuses on the top-down management dimension, whereas the latter has a belief in a decentralised market mechanism. However, contemporary neo-liberalism has already kept away from the naïve *laissez faire* imagination. According to the practice of *Ordoliberalen* in post-war West Germany, the market is no longer a ‘natural reality’ but exists and functions in a framework maintained by state policy. Neo-liberalism has adapted itself into different versions to spread its dominance around the globe. Consequently, green governmentality and ecological modernisation together represent the mainstream neo-liberal institutionalist approach regarding international environmental politics and climate change politics as well. What is important is not the existence of management but the question of ‘how to manage’; in other words, ‘how to govern’. In short, these two discourses together constitute the substantial elements of contemporary global climate change politics, which aims to manage global climate problems by creating a market mechanism in which the earth and the atmosphere are commodified.

In general, the Foucauldian approach has provided a different framework to understand international climate change politics by problematising and exposing the power/knowledge relation behind established institutions. Specifically, the governmentality approach tries to uncover the present neo-liberal project within international climate change politics. This neoliberal project is channelled and installed through, what seems to be, decentralised market designs. In order to maintain and enhance this certain way of governance, relevant ‘truth’, ‘naturalness’ and knowledge are necessary to place the ‘right disposition of things’. The Foucauldian approach has provided an insightful and inspirational observation of contemporary international climate change politics. This research has not found consistent literature discussing

China's climate change politics in this approach. However, there are growing governmentality studies on different dimensions in China (Jeffreys 2009). The problem is how to deploy the governmentality study historically and contextually in China.

When examining the green political theory and green politics in IR, Paterson claims that the problem with these theories is that they are not 'structuralist enough' (2000: 40). Paterson argues that there is a need to "understand the structures which produce these ethics and social imperatives" (2000: 40). However, this thesis contends that he has not given the governmentality study or other post-structure approaches fair credit. First, no matter whether for Hajer, Dean, Gordon, or Foucault himself, none of them has claimed that the discourse, the rationality, the mentality and the art of government come from a vacuum. Those concepts have their own material, historical and structural grounds. Paying attention to discourse and governmentality does not necessarily need to keep a distance from a structuralist approach; conversely, by examining the power relations of different discourses and governmentalities, multifaceted structures directing the subject and knowledge formation are exposed.

Second, while examining the four power structures which influence contemporary environmental degradations (Paterson 2000), there is space for these postmodern or Foucauldian approaches to be involved. No matter the structure of capitalism, state system, knowledge, and patriarchy, there is always the need to have certain *norms* and *rules* in order to smooth the operation of these structures. This thesis argues that the relationship between individual and structural is not mechanical. As Cox argues, the structure should be understood as "persistent social practices made by collective human activity and transformed by collective human activity" (1987: 4). Consequently, this thesis claims that a Foucauldian approach needs, and should be based on the dynamic structural analysis which provides the space to trace the developments of different

rationalities.

Okereke *et al.* (2009) have tried to transcend the limitations of the mainstream regime analysis in climate governance by combining neo-Gramscian and Foucauldian approaches. Their aims are to re-examine (1) the nature of power in global governance; (2) the relationship between public and private authority; (3) the dynamics between structure and agency; and (4) the rationalities and actual processes of governance. They have raised similar criticisms, as discussed earlier, of neo-liberal institutionalism and about its assumption of the nation state. By extracting some theoretical elements, these two approaches together help to challenge the assumptions of neo-liberal institutionalism. According to Okereke *et al.* (2009), power is ‘multiple and relational’. State is a ‘site of strategic selectivity’ where different social forces are encountered and governance should be understood as a process. However, this thesis is aware of the risk to combine these two different approaches directly, although both of them explore and criticise the neo-liberal project in global politics. This thesis recognises the theoretical contributions from both neo-Gramscian and Foucauldian approaches but does not try to combine these two approaches. Instead, this thesis moves on to establish the theoretical framework based on the revised governmentality approach for further analysis.

2.6 Towards a Framework for Analysis

This chapter has reviewed the main IR approaches to explore how they address international climate politics. It is impossible to include all IR approaches in this review; as a result, each of the selected approaches discussed in the previous sections has represented specific ontological and epistemological assumption, which

differentiates it from other approaches. Before moving on, this research would like to review normative theory, especially the English School, in the IR discipline. Although there remain disputes to clearly categorise the English School,²⁶ the key figures of this school such as Hedley Bull (1977) and Martin Wight (1977, 1991) have demonstrated the core concerns of this approach which are the research on international society and bringing history, norms, moralities, and interpretations into the study of international politics. Although admitting international anarchy and recognising the state as the most important actor in international politics, the English School has brought the non-material aspects, such as rules, institutions, and culture into analysis. International society, different from the Hobbesian international system based on state-centric power politics, is the institutionalisation of shared interests and identities. Rules and institutions can be established through dialogues between states and the common interests are crucial to maintain these institutions (Bull and Watson 1984).²⁷ This Grotian perspective makes the English School seem similar to the institutionalist approach of liberal IR tradition; nevertheless, Wendt and Davall argue that the English School is based on an interpretative approach which is different from neo-liberal institutionalism based on rational choice and instrumental logic (1989: 51-73). In summary, the English School has developed a new research agenda focusing on the order and norms of international politics. Its concept of international society has also

²⁶ Roy Jones (1981) argues that the English School is based on the London School of Economics and it is known as: (1) treating IR as an independent discipline, (2) researching 'international society' and (3) focusing on traditional research methods. Whereas Tim Dunne (1998) contends that the English School originates from the British Committee on the Theory of International Politics founded in 1959 and this school emphasises: (1) different research traditions such as the international society, (2) an interpretative approach and (3) normative international theory. The later description is widely accepted as the path of the development of the English School.

²⁷ Besides the Hobbesian international system and Grotian international society, English School researchers claim there is also the Kantian world society based on different methodologies. While the international society is still based on international interaction among states, the world society provides idealist international politics where individual and non-state actors play more important roles. Little (2000) explains that the international system is based on positivism, the international society on hermeneutics and the world society on critical theory. Wight, from the epistemological perspective, argues that the three traditions of international relations: realism, rationalism and revolutionism, have corresponded to the concepts of the international system, the international society and the world society (1991).

influenced the emergence of constructivism in the IR discipline. Nevertheless, its ontological assumptions are not clear enough so that the relation among the international system, international society and world society remain underdeveloped (Buzan and Little 2000).

This thesis accepts that the English School contributes to bringing non-material and normative aspects into analysis in a hermeneutic way and its inspiration to constructivism. Nevertheless, this thesis contends that the norms and moralities need to be critically and contextually examined as well so that where these norms are from and under which circumstances and power relations these certain norms acquire legitimacy should be taken into analysis. In other words, this thesis contends that a more dynamic analysis about the formation, change and transformation of norms, rules, institutions and moralities is needed for the English School. Moreover, how to apply the concept of international society into the analysis of international climate change politics remains ambiguous. Are the North and the South in the same international society or not when both side recognise the importance of tackling climate change? How does this normative theory deal with competing, or even conflicting, international societies based on different common values and norms? How can different norms with conflicting assumptions be reconciled? Can normative theory integrate the 'equity' concern in global climate politics, which is based on the unequal political economy structure? To sum up, this thesis finds it difficult to apply the framework of the English School to grasp the dynamics of global climate politics, although some of its concepts can be deployed in different situations. Roberts and Parks (2007) also point out the enormous 'worldview gap' in international climate change politics while the concept of 'justice' and 'equality' are brought into negotiations. The four different proposals of allocating the responsibilities of emissions reductions: grandfathering, carbon intensity, per capita

and historical responsibility have all had their own underlying reasoning and knowledge of ‘justice’ (Roberts and Parks 2007). As a result, Roberts and Parks argue that no one party can ‘win’ their fairness argument while there exists no ‘universally shared norms of justice’ in international climate change politics (2007: 221). How to grasp the dynamic process of ‘moral compromise’ is an unavoidable task for normative IR theory, this thesis argues. In addition, Roberts and Parks (2007) argue that different claims of norms and justices from different countries do not represent different ‘perceptions’ only; instead, they represent certain social realities. “[F]airness positions are configurational, or based upon a nation’s position in the global economy” (Roberts and Parks 2007: 182). Consequently, this thesis keeps arguing that while bringing norms into analysis, whether they are neo-liberal institutionalists, regime analysis, constructivist approaches or the English School, the norms always need to be explored historically and contextually and the power/knowledge behind norms need to be examined as well. In summary, this thesis argues that the normative theory needs to develop a more dynamic framework to grasp the competition between different norms in international climate change politics. Meanwhile, the research on norms needs to be broadened to incorporate other structural, historical and contextual factors. As a result, while China has raised certain norms representing its concerns of ‘justice’, ‘fairness’ and ‘equity’, such as historical responsibility, developmental rights and per capita emissions; this thesis argues that it is crucial to understand under which historical circumstances these norms emerge in China. Moreover, what mentalities, worldviews, knowledge and rationalities have these norms demonstrated?

In general, the neo-realist and neo-liberal institutionalist approaches share the same ontological assumption of international anarchy. Nature and the environment are treated by neo-realists and neo-liberal institutionalists as manageable and controllable objects in

their analysis. The difference is that neo-liberal institutionalists claim that through the establishment of international regimes, institutions and relevant norms and rules, states can cooperate rationally to tackle the challenges of global environmental changes. Both mainstream approaches understand and solve the environmental problems through the existing theoretical framework without reflexive questioning. Within contemporary global environmental governance, 'sustainable development' has occupied the core concern in the mainstream agenda (Irwin 2001), which tries to integrate economic development and environmental concerns together through the introduction of market mechanisms. Liberal environmental norms, in Bernstein's words, are now identified as the basis of current global environmental governance in which market mechanism and privatisation strategies were introduced to manage environmental problems (2002). In summary, while facing the challenges of climate change, both neo-realists and neo-liberal institutionalists fail to address this serious issue, due to their ontological and epistemological assumptions. However, this thesis also points out that, except for these essential flaws, surprisingly, both approaches, especially the realist one, have shown their effectiveness. Nevertheless, by taking the hard version of the constructivist approach into account, it is clearer to see why there is the trend of (re)territorialisation, which may cause the popularity of realism. Meanwhile, this thesis argues that this constructivist explanation needs to be critically examined when it is applied to non-Western areas where there are different paths of state formation. Nevertheless, the hard version of constructivism has the potential to work with critical IR approaches to explore the underpinning forces, knowledge, and power relations of international politics and the governance of climate change. Critical IPE approaches have successfully challenged the neo-realist and neo-liberal institutionalist approaches through a structural and historical perspective. However, the resurgence of geopolitics

and the nation state in global climate change politics is a phenomenon the critical IPE researchers need to overcome. It is important, this thesis agrees, to take structure(s) into concern. Nevertheless, since structure is not a predetermined and immutable existence, it is also crucial to examine the formation and transformation of certain structures contextually and historically. Meanwhile, besides the exploration of *why* humans have current climate change problems, it is also significant to address *how* norms and solutions are formed, where governmentality study plays an important role. On the one hand, by focusing on the *how* question, it helps to clarify why it is difficult to find out the structural causes and to ask the real *why* question. On the other hand, by combining these two enquiries, it will help grasp the dynamics of international climate change politics and to answer the initial *what* question.

Nevertheless, as this thesis keeps emphasising in previous sections, one of the difficulties when conducting a systematic review of existing approaches is that in the field of international climate change politics, it is not easy to find a clear-cut categorisation based on the differentiations of different approaches. For an author who has made no attempt to produce a cohesive theory about climate change, the best option is to discuss almost every aspect, from domestic energy structure, cost-benefit analysis, policy preferences, international bargaining, to alignments and strategies; and then the actors, from national government, international organisations and NGOs to epistemic groups. In such a broad work, readers can always find literature from different approaches in different situations. This is an unavoidable phenomenon as long as global climate change politics is entangled with various fields of human society. When discussing China in global climate change politics, this phenomenon becomes more apparent when a variety of approaches is applied interchangeably in Chinese and Western literature. The initial motive for researchers is trying to understand and explain

China's strategy concerns and policy priorities in international climate politics, which this thesis is also eager to know. However, no matter how much clarity these researches can bring, a comprehensive map grasping the structures and dynamics of China and international climate politics will be constantly missed if researchers do not try to abstract and theorise the phenomenon. The problem, this thesis contends, is that almost every discussed approach has a tendency to 'universalise' the empirical world. For mainstream neo-realist and neo-liberal institutionalist approaches, the universalisation trend appears from their ontological and empirical assumptions. For the critical IPE and Foucauldian approaches, this universalisation arises from their critiques of global neo-liberal projects that different governmental rationalities have missed out.

As a result, this thesis has proposed a revised governmentality framework, based on the critical engagement with critical IPE and Foucauldian approaches. From the perspective of critical IPE and neo-Gramscian perspectives, it is crucial to examine China's interplay with the proposal of carbon market(s), the introduction and development of the CDM in China and the relevant social settings in order to expand the market force in global climate change politics. In other words, the inspiration from critical IPE and neo-Gramscian approaches is to understand how China reacts to climate capitalism, and the continuation and expansion of global neo-liberal project. Based on this concern, this thesis will examine whether the governmental rationality of market dominates at both international and domestic levels when China is involved. Meanwhile, besides the market rationality, are there different governmental rationalities influencing and directing China's self-identification and strategic concerns of politics and governance of climate change at both international and domestic levels? At international levels, the review and analysis of changes and continuities of China's attitudes towards crucial issues in international climate politics help grasp China's

primary concerns and help explore the underpinning rationalities further. At domestic levels, through the critical examination of the practices and mentality of the market rationality in China, it helps disclose other crucial governmental rationalities underpinning China's understanding, knowledge, and strategic concern of its climate governance and politics. In order to grasp the dynamics of China's politics and governance of climate change at international and domestic levels, this thesis argues that the critical IPE and neo-Gramscian approaches which emphasise the universalised critique of neo-liberal project should be supplemented by integrating a more historical and contextual understanding of how China's state formation and historical contingencies have influenced its reactions to the market rationality in its environmental and climate change governance.

Meanwhile, while deploying the governmentality approach to examine the 'art of government' and the 'rationality of government' in China's politics and governance of climate change at international and domestic levels, this thesis also points out the limitation of this Foucauldian approach. The problem is that while Foucault discussed the development of different governmentalities in different historical periods, the resources he had for the argument were based on Western Europe. Again, this thesis does not tend to stand in a relativist position since this thesis has recognised the spread of capitalism, the state and state system on a global scale along with the proliferation of modernity. Nevertheless, while Palan (2000) praises the multifaceted explorations of the Foucauldian approach, this thesis contends that it is also crucial to reflect the potential trend of 'universalisation' behind the Foucauldian critiques. From the pastoral power of Christianity, to the *raison d'état* and the police state, Foucault had shown the development of governmentality to the *liberal end*. Liberalism, from the governmentality perspective, should be best understood as "referring to a mode of

government, not simply a doctrine of limited government” (Jeffreys and Sigley 2009: 4). However, this thesis questions how can authoritarian governmentality, or the governmentality in authoritarian states, be explained from this argument since, in countries such as China, the state or the ruling groups have an overwhelming power over society and civic groups and do not have the need to govern in liberal social settings. Dean (1999) has discussed the ‘authoritarian governmentality’ but he mainly deals with the despotic face of liberal governmentality and does not give a theoretical account on how governmentalities operate in authoritarian states. In order to answer these questions, this thesis argues that liberal governmentality did not appear from a vacuum. Actually Foucault has clearly explained that the liberal governmentality he criticised was based on the establishment of the Westphalia system, the expansion of the global market, the rising of the mercantilist state and the enhancement of international competition (Foucault 2007). In other words, the historical contexts of the emergence of certain governmentalities should be taken into account. Different historical paths do influence the outcomes of the encounter between the structural forces and the recipients. As a result, while this approach is applied to China, how China accepted, interpreted, and transformed different global forces needs to be examined critically in order to explore the formations and transformations of different governmental rationalities.

Consequently, it is necessary to examine what governmentalities can be observed in China. For Jeffreys and Sigley (2009) the ‘socialist arts of government’ in China is conducted by the “technoscientific-administrative Party-state – a mixture of conventional Chinese socialist technologies of government...and seemingly neo-liberal strategies” (2009: 7). Regarding China’s climate politics and governance, the aim of the research is to explore and examine the underpinning governmental rationalities. Meanwhile, inspired by the critical IPE and neo-Gramscian approaches, this thesis does

not treat fields of politics and economy as separate; instead, it is crucial to grasp the formation and dynamics of the state/market/society relations in China. The inspiration also leads to the critique of mainstream approaches which stay at the ‘problem-solving’ level. As a result, this thesis will question those ‘taken-for-granted’ in China’s politics and governance of climate change. As a result, the knowledge, mentalities and rationalities underpinning the present settings have become the research objects of this thesis.²⁸ In the end, the inspiration from critical IPE and neo-Gramscian approaches has also brought challenges to the positivist ontology and epistemology of mainstream approaches. As a result, what subject and subjectification emerge and what state/society/market relations are formed in China need to be analysed historically and contextually. These concerns from critical IPEs and neo-Gramscian approaches have helped establish the revised governmentality approach of this thesis. In order to understand China’s politics and governance of climate change at international and domestic levels, this thesis has proposed a framework in which governmental rationalities of sovereignty, development, market and environment are taken into account. A more detailed discussion of this framework will be in the next chapter.

²⁸ This thesis agrees that the Foucauldian approach does not lead to the exploration of the ‘origin’ of present problems. Nevertheless, through the examination of how present problems and solutions are presented, the underlying forces constituting present ways of governance can still be understood genealogically.

3. Governmental Rationalities Underpinning China's Foreign and Domestic Politics and Governance of Climate Change

As discussed in the last chapter, the mainstream IR approaches, including neo-realism and neo-liberal institutionalism have all tried to integrate the nature and the environment into their existing analytical frameworks. As a result, there is indeed no such field as 'environmental politics' to these mainstream approaches. Through different mainstream lenses, the environment is treated as tameable, manageable, calculable, and tradable. The history, power, and structures behind these environmental phenomena were neglected by mainstream approaches. Various critical approaches have challenged mainstream approaches from different perspectives by bringing underlining knowledge, norms, material elements, social forces and power structures into analysis. As this thesis keeps emphasising, although mainstream neo-realist and neo-liberal institutionalist approaches can both partly explain international climate change politics, they fail to grasp the dynamics behind it due to the ontological and epistemological assumptions. Constructivism has the potential to work with critical IR approaches to expose the knowledge, norms and ideas underpinning global politics. Nevertheless, the lack of theoretical consensus and the intermediary status between positivism and post-positivism make it difficult to provide a solid analysis of global climate change politics. Meanwhile, this thesis argues that it has to reconsider the formation and constructability of different states through a historical perspective. The hard version of the constructivist approach can work as the supplement of discourse analysis and the Foucauldian approach. Critical IPE approaches, including neo-Gramscianism, have brought structural and historical aspects into concern. This thesis agrees that this is a more

comprehensive framework than mainstream approaches, but as discussed in the last chapter, this thesis also argues that the liberal project, along with the global expansion of capitalism, is not the only factor directing international climate change negotiations. The resurgence of the nation state over its natural resources and the reterritorialisation trend in global climate change politics cannot be properly explained if the formation and transformation of state and state system do not gain sufficient attention. There exists the trend to commodify carbon emissions globally, but the universalised and unified understanding/critique of the liberal project does not help grasp the dynamics of global climate change politics, this thesis contends.

As a result, the governmentality approach is applied in this thesis as the analytic framework which tries to integrate structural, historical, material, technological, and subjective factors along with power/knowledge. In order to build up this framework, Foucault's governmentality approach needs to be revised in this thesis. As discussed earlier, Foucault's analysis of governmentality was based on the history of states and the state system in the Western Europe, which has its own specific historical path. This history had demonstrated a particular relation between the state and society in which a specific way of subjectification, based on the Enlightenment, was gradually formed. Foucault's aim was clearly to depict how a new way of 'conduct of conduct' and 'arts of government' emerged along a new 'governmental rationality' defining the new relation between the state and society and between politics and the economy. Based on the history of Western Europe since the 16th history, it is apparent that Foucault has devoted himself to questioning and challenging the liberal and neo-liberal ways of government. This critique is effective, this thesis agrees, to expose the tacit operation of power/knowledge in contemporary governance. Nevertheless, while asking these Foucauldian questions, such as 'who governs?', 'how to govern?', and 'why govern in

such a way?', it is unavoidable to shift the target of governmentality analysis beyond liberal rationality and apparatus. Liberal governmentality, as Foucault criticised, is not just a set of ideas and values, but a specific way of accommodating the state and society, and the politics and economy. This liberal governmentality has its own global influence, this thesis agrees, but it does not mean that this liberal governmentality has successfully penetrated into every corner of the world. The key to Foucault's spirit, this thesis argues, is thus to examine the formation/transformation of relations between the state and society and between politics and the economy historically and contextually.

Meanwhile, it is also crucial to recognise that to rule through self-discipline and self-governance, which has long been the centre of Foucauldian research, is also based on specific subjectivity and subjectification. The research on the individual body, aspiration, discipline and mentality helps grasp the micro power relations in a liberal society, whereas this thesis also argues that this should not exclude the research focusing on collective aspects of subjectivity and mentality in a society where individuality is not embraced. Again, either the relation between the state and society or the understanding of the subject should not be treated as self-evident and fixed. Besides, this thesis has pointed out that limiting the understanding of governmentality within the liberal framework fails to grasp the power relations in authoritarian regimes based on different historical paths of formation and transformation of the state/society and subjectivity. As cited in the last chapter, the state is just "the mobile effect of a regime of *multiple governmentalities*" (Foucault 2008: 77; italic added). In order to examine multiple governmentalities in non-liberal states, this thesis contends it is necessary to examine more governmental rationalities than liberal one in which the governance is conducted via market and society. This is not an unusual academic attempt for those researching on non-liberal governance. Yao has compared the governmentality in the

ruling of Taiwan by the Japanese Empire before the Second World War and the Chinese Nationalist government after the war. The relation between the ruling government and local neighbourhood system is analysed and compared in order to examine surveillance and control over Taiwanese local forces which consisted of collective ties such as families and neighbourhoods (Yao 2008). It is apparent that either under the colonial ruling by imperial Japan or the authoritarian ruling of the Chinese Nationalist government, Taiwan was never a liberal society and the governance in both periods was operated through administrative command. Jeffreys and Sigley (2009) also use the framework of the 'socialist art of government', in which "a mixture of conventional Chinese socialist technologies and seemingly neo-liberal strategies" is conducted, to examine multiple dimensions of governmentalities in China. This 'mixture' aspect, this thesis argues, indeed represents part of Foucault's concerns that he also claimed that the emergence of governmentality did not replace the previous way of government: sovereignty and discipline (Foucault 2007).

Beside the focus on the techniques of government, another contribution from the governmentality approach is the effort to examine the mentalities and rationalities underpinning the government. In other words, while conducting governmental research, it is crucial to both examine the 'arts of government' and the 'rationalities of government', and to reflect on the relation between these two domains. As discussed in the previous paragraphs, this thesis argues that micro power and governance is not the only domain needed to be examined. The reason, this thesis contends, of why collective and authoritarian techniques of governance are effective needs to be understood through the grasp of the rationalities of government. Foucault's attempt has revealed the emergence of liberal governmentality and the global dissemination of neo-liberal governmentality. Along this liberal rationality/mentality are governmental techniques

with self-discipline, self-governance and apolitical governance based on technocratic managerialism and market ideology. Nevertheless, this thesis argues that different historical paths which were underpinned by different rationalities/mentalities and arts/techniques of government should be analysed seriously as well, in order to grasp the real governmental practices in different contexts. Disciplinisation, subjectification and governmentalisation do not have to be conducted on the individual body; meanwhile, they are not necessarily conducted in the apolitical and non-political spheres as well. The examination of non-liberal and authoritarian governmentalities should enrich the understanding of this field.

As a result, the revised governmentality framework of this thesis focuses on the multiple rationalities of government, or governmental rationalities, in global climate change politics. At the same time, by examining different governmental rationalities, the techniques and arts of government are revealed as well. While focusing on the international levels only, the emphasis on liberal governmentality is helpful in grasping the general dynamics, to some extent. Nevertheless, in order to understand the conflicts and resistance from different actors, different governmental rationalities need to be taken into account as well. This thesis argues that different governmental rationalities are competing with each other so that each of them should not be understood as an unchallenging universal force. Meanwhile, as Foucault claimed (2007) that the emergences of different governmental rationalities do not always follow on from each other in that newly emerging ones replace previous ones. In order to grasp China's self-identity/identification and strategies in global climate change politics, this thesis has focused on the governmental rationalities of sovereignty, development, market and environment.

These rationalities all have their international derivations and domestic translations

and transformations. Meanwhile, they influence both China's climate diplomacy and domestic politics and governance of climate change. These governmental rationalities are not pre-given and pre-determined, but are excavated genealogically from the pieces of history. A genealogical analysis is "a history of the present in terms of its past" and that its task is not to "tell what actually happened in the past, but to describe how the present became logically possible" (Bartelson 1995: 7-8). Taking the governmental rationality of sovereignty as an example, the aim is not to repeat the realist language while analysing China's climate diplomacy but to examine under which historical circumstances/contingencies sovereignty becomes an influential governmental rationality in China's climate change politics, either at international or domestic levels. The four sections that follow discuss and analyse these four governmental rationalities not just from the abstract level since they all emerge from concrete history, but from a historical and contextual understanding in which international and domestic forces are intertwined. Section 3.5 moves to discuss the state/society relation and the particular role and the legitimacy of the Communist Party in China, in order to depict the context and background in which these four governmental rationalities interact with each other. It also helps explain the uneven relations among four rationalities. Section 3.6 demonstrates how these underlying factors which are introduced from Section 3.1 to Section 3.5 have influenced the formation of relevant knowledge and mentality for political elites, academic researchers and ordinary people. By doing so through research fieldwork, it becomes clearer why certain insurances are taken for granted for China at international and domestic levels. In summary, the aim of this chapter is thus to provide a feasible framework for future analysis. How different rationalities are formed, understood, interpreted, and transformed in different dimensions of China's politics and governance of climate change at both international and domestic levels are discussed in

the chapters that follow.

3.1 Sovereignty

Starting from the abstract dimension, the rationality of sovereignty in this thesis refers to the aim and political will to maintain and consolidate the integration of territory and sovereignty. The knowledge behind this rationality is the ideal imagination and understanding of an international system in which each state has equal status and interference is not tolerated. This ideal type of sovereignty has its own historical roots in Western Europe from the 17th century. The Westphalia system from that time has brought the concept of national sovereignty which should not be interfered with by foreign powers and international anarchy as there is no higher authority over sovereignty in the international arena. Before research on international relations became an academic discipline, how sovereign states interacted with each other was analysed by the disciplines of History, International Law and Philosophy. Nevertheless, the laggard of the development of the IR discipline did not prevent the ideas and practices of the Westphalia system from being spread globally. The sovereignty state and state systems were consolidated along with the tide of nationalism in Western Europe since the 18th century. The imperial and colonial expansion in the 19th century brought this system and its relevant rules and norms to the whole world. Like it or not, the non-Western world encountered the Westphalia system and eventually had to transform itself into this system. To examine the history and development of the concepts and practices of sovereignty and its global expansion helps deconstruct the ‘timeless ontology and unchanging epistemology’, in other words, “a history of sovereignty cannot be but a

history of the epistemic discontinuities, conceptual reversals and changing metaphors that breathe life into political philosophy, and animate the discourse on sovereignty” (Bartelson 1995: 53). China’s acceptance, knowledge and obsession of sovereignty have to be grasped through this historical contingency.

China did not have a modern/Western concept of ‘sovereignty’ until the mid 19th century, though the obsession of sovereignty is very strong in the People’s Republic now. To start with a historical review, China and other periphery countries in East Asia lived in an entirely different international system, the tributary system, in which China was the ‘central kingdom’ for nearly 2,000 years. The idea of mutually equal interactions among states did not exist in ancient China so the internal affairs were always the primary concern in traditional Chinese political philosophy. Since the Qin Dynasty unified China and established the first empire in Chinese history in 221 BC, the tributary system was the fundamental system defining imperial China’s relation with other countries (Shan 2008). The deeply rooted Confucianism throughout Chinese society has created a world based on hierarchy, inside and outside China. The legitimacy of the government came from the superior morality and the superiority of Chinese culture and Chinese civilisation had accommodated China at the centre of this system under heaven (Fairbank 1968). The ‘state’ in this context is an ethical concept (Shih 2001). China was not always the most dominant country in this region, in terms of economic and military power, but this mentality, with a hierarchical international order had been widely accepted by China and the periphery tribes and countries. While this system reached its peak in the Ming Dynasty in the 15th century, there were over 60 countries in this Sino-centric system. As the centre of this world, China had no idea about equal relationships and interaction between countries. Most of time, the tributes from periphery countries were much less valuable than the rewards from the Chinese

Empire, which explained that what the central kingdom wanted was symbolic power rather than precisely calculated interests.²⁹ Periphery countries gained economic interests by paying tributes to China; meanwhile, the stability and order within this system were guaranteed by the central kingdom. Both in the Ming and Qing Dynasties, China declared war on foreign invaders in order to protect its tributary countries, such as Japan's invasion of Korea in the 16th and 19th centuries and France's invasion of Vietnam in the 19th century. Both Korea and Vietnam were the closest tributary countries in this system. However, these wars were irrational if they were interpreted from a modern instrumental perspective. China had made a great sacrifice but the reward was just the symbolic and theatrical demonstration of its national image (Adelman and Shih 1993).

As a consequence, when the Qing Dynasty fought the Opium War against the British Empire in 1840, it represented a conflict between two international systems. The defeat of the Qing Dynasty was just the beginning of the humiliation for China in the following century. China had no choice but to learn how to transform and adjust itself into a modern state with a concrete territory and exclusive sovereignty. The aspiration to be a modern state and to pursue modernisation had become the primary goal for politicians and intellectuals in China since the late Qing Dynasty, nearly one hundred years ago. The Communist Party was the first political group capable of controlling the whole mainland since imperial China collapsed in 1911, after winning the civil war against the Nationalist Party in 1949. However, even after the People's Republic was established, this obsession of the 'modern state' has never been laid down because (1) the socialist state has to prove its superiority over the capitalist state and, more specifically, (2) China has always experienced threats from the West, whether it is

²⁹Fairbank (1968) pointed out that the tribute was another form of trading. However, the periphery countries needed to recognise the central role China occupied in the system in order to get permission to trade with China.

constructed or not. During Mao's revolutionary period, the US and the Soviet Union, who both threatened China's survival, were depicted as imperialist and hegemonic. After China's economy began to grow in the 1980s, the theme of the 'China Threat' from the West, mainly the US, in the 1990s came about (Gelb 1991, Krauthammer 1995). The Communist Party continues to fear that the West will try to overthrow it through 'peaceful evolution'. As a result, the disputes about human rights in the past and about climate change in the present are both treated as the potential means to threaten China's development and even to endanger China's sovereignty. This mentality appeared in the interviewees in this research and will be discussed later. The high sensitivity regarding sovereignty issues and the necessity of independent and autonomous diplomacy should be accommodated in this historical context. This mentality has penetrated into the heart of China's foreign politics, and the politics and governance of climate change as well. That partly explains why China firmly rejects the quantified reduction targets but, at the same time, is willing to take many domestic measures to fulfil its own reduction targets, as long as those measures are non-binding.

In summary, although the concept and practices of 'sovereignty' were brand new to China 150 years ago, the history of imperial invasion and the feeling of humiliation along with the nationalist mobilisation after the collapse of imperial China have established a strong obsession of this Western concept. The language, understanding, practices, and knowledge of sovereignty are commonly shared by ordinary people, intellectuals, and political elites throughout the spheres of state and society so that it becomes extremely sensitive to discuss or even demonstrate will of concessions in international negotiations. The particular characteristics of Communist China since 1949 have made it more rhetorically stubborn while dealing with relevant issues. To maintain the integrity of sovereignty, to pursue the independence and autonomy and to

remove imperial/hegemonic influences from outside have become the prior concerns of China's foreign politics in the last six decades, which is discussed in the next chapter. In other words, the rationality of sovereignty, which is based on the classical understanding of this concept, is rooted in China's foreign and domestic politics. This governmental rationality has brought a stubborn and realist image of China in international climate negotiations.

3.2 Development

To start from the abstract level, the rationality of development emphasises the need and the right (of a state) to develop. The underpinning knowledge is about the linear and teleological modernisation. The welfare of the population has been integrated into the primary targets of the state. When examining the rationality of development, it is crucial that the concept of 'development' has its own genealogy in the international arena, just as sovereignty in China does. Researchers have pointed out that this concept was brought into account while the then US President Truman defined the largest part of the world as 'underdeveloped areas' in 1949 (Sachs 1999, Ziai 2007). After that, the world was divided into developed and underdeveloped, or developing, parts and 'development' became an imperative of a new kind of worldview as well as a new type of worldwide domination (Sachs: 1999: 5). Meanwhile, the American model of society and growth was projected onto the whole world. Following the introduction of 'development', the category of 'poverty' was also discovered, which was not an issue before 1940. "When size of income is thought to indicate social perfection...one is inclined to interpret any other society that does not follow that (economic) model as

‘low-income’” (Sachs 1999: 7). The criterion of poverty and absolute poverty has reduced ‘whole ways of life to calorie levels’. Complex real-life problems are translated “into numerical terms that could be broken down and analyzed” by experts (Caufield 1998: 61). Consequently, ‘poverty’ is treated as the problem and ‘growth’ as the solution in terms of development (Sachs 1999: 10-11). From the Foucauldian perspective, a new field of subject/object was formed along with the necessary knowledge and technologies. At the same time, the need for growth and development also became new directives for states around the world. The core of this development discourse is the technicality in which managerialism leads the world to define and solve the problems through technical and anti-political measures (Germond-Duret and Howe 2011).

Within this context, the emerging environmental concern in the international arena since the early 1970s had to deal with the relation between environmental protection and (economic) development, which, in the 1980s, brought the concept of ‘sustainable development’. The term ‘sustainable development’ appeared in the report of *World Conservation Strategy* (WCS) (IUCN 1980) by the International Union of the Conservation of Nature (IUCN) and became known worldwide from the World Commission on Environment and Development report, entitled *Our Common Future* (Brundtland 1987). Since then, this concept has raised public concern and entered the international political agenda. In *Our Common Future*, also known as the *Brundtland Report*, it states that development and environment could not be separated and issues of ‘the factors underlying world poverty and international inequality’ should be taken into account while tackling environmental issues (World Commission on Environment and Development, WCED 1987: 3). Sustainable development was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 8). Another key issue stated in *Our*

Common Future is that poverty had played an important role in causing environmental degradation in developing countries and thus by economic growth leading to poverty alleviation, environmental pressures could be relieved. *Agenda 21*, concluded at the Earth Summit in 1992, reaffirmed ‘the revitalisation of growth with sustainability’ as it still focused on the centrality of growth and the environment remained an object to be managed, which demonstrated the technocentric implication (Adams 2001: 88). Meanwhile, the World Bank also contributed to enrich this concept. In its *World Development Report* (1992), written under the direction of its chief economist, Laurence Summers, sustainable development was defined as ‘development that lasts’. The report recognises that poverty, uncertainty and ignorance, as the key causes of environmental degradations (1992: 65) and free market mechanisms, are claimed to be capable of enhancing economic growth and gaining efficiency. The report also says that, “liberalized trade fosters greater efficiency and higher productivity and may actually reduce pollution of cleaner technologies” (1992: 67). It is apparent that both the UN and the World Bank embrace market mechanisms as the tool to fulfil sustainable development.³⁰ In short, the mainstream idea of sustainable development shares “the dominant industrialist and modernist ideology of the modern world-system” (Adams 2001: 102). From this perspective, climate change is integrated into this managerialism and is treated as ‘an economic issue’ (Zoellick 2008). Problems and solutions are defined in a “technical manner, social aspects are let apart, identification of problems and solutions relies on science.....and institutions involved are anti-political” (Germond-Duret and Howe 2011: 9). Consequently, market mechanisms including carbon trading are preferred as the policy tool to tackle climate change.

³⁰The World Bank publishes another *World Development Report* and admits the win-win policies of sustainable development were “much harder to implement than initially thought” (2003: 34), however, it still insists on the role of a neo-liberal market mechanism that “experiences suggest, however, that regulations are sometimes less efficient and effective than market-based instruments-and costly in the institutional capacity they require for implementation” (2003: 32).

As discussed above, the concept of development was raised by the rich and industrialised North, especially the US, after the Second World War, and the emergence of sustainable development was initially a North reaction to the growing environmental movements. However, the South has accepted the language of development generally and placed economic growth as a primary policy. After environmental issues were raised on the international agenda by the North, the South reacted by demanding a deeper realisation of development. The Beijing Declaration of the G-77 in 1991, one year before the Earth Summit at Rio, claimed:

Environmental problems cannot be dealt with separately, they must be linked to the development process, bring the environmental concerns in line with the imperatives of economic growth and development. In this context, the right to development for the developing countries must be fully recognized (Beijing Ministerial Declaration on Environment and Development 1991).

This firm attitude also provided the South with an opportunity to use “environmental concessions as diplomatic weapons” (Sachs 1999: 31). A ‘double contradictory’ emerges that on the one hand, the standardised and normalised development discourse has prevailed to the South. On the other hand, developing countries are to be blamed because they pursuit economic development prior to the environmental concerns (Germond-Duret and Howe 2011). This contradiction has led to antagonisms between the North and the South. To sum up, the dominance of the managerial and technological rationality of development has influenced the North-South divide in international environmental and climate change politics, and has created the discursive space for developing countries to claim and maintain their particular, if not united, interests in

battles of international climate negotiations.

Regarding China, it is clear that the obsession of development, sustainable or not, has been infused into China as one of the core rationalities of government. The ideology of development has fitted China's need since Mao's period. Partly due to the need to demonstrate the superiority of socialism over capitalism and partly due to the international rivalries of anti-imperialism and anti-hegemonism, economic development, which focused on productivity, had been the priority of China's policy. 'Surpassing Great Britain and Catching up with the United States', and a 'Great Leap Forward', proposed by Mao in the late 1950s, had demonstrated this obsession for development. After China started its economic reform in the late 1970s, economic development gradually became the only legitimacy of the Communist Party, which strengthened this obsession. While facing environmental challenges and the threat from climate change, China has also learnt to integrate the discourse and rationality of development into its measures. 'Sustainable development' and relevant concepts such as a 'cyclic economy' and a 'low carbon economy' are raised as the guideline to tackle climate change without sacrificing economic growth.³¹

Meanwhile, the separation between the developed and developing worlds, which was due to the introduction of the concept and relevant categories of 'development', had accidentally created the space for international cooperation among developing countries, especially as many members of this alliance were forced to accept the rules and norms of an international society consisting of sovereign states. The rationalities of sovereignty

³¹The concept of a 'harmonious society' was proposed by President Hu in 2004. It is a strategic goal of social development aimed at pursuing harmony and balance among different social dimensions. This concept soon became the core philosophical basis of various Chinese policies. While environmental issues are taken into account, the aim is to solve the contradiction between human society and nature. It is clear that the 'harmonious society' has borrowed the traditional perception of nature and of the relationship between humans and nature, which was based on cosmic resonance. The concepts of 'sustainable development' and the 'cyclic economy' were integrated into this philosophy (State Council 2005). In the 11th *Five-Year Plan* (FYP), the development of a cyclic economy and the establishment of energy-savings and an environmentally-friendly society have become the primary goals. These concepts have provided the philosophical grounds, which also reflect the traditional perception of nature, for China's climate governance.

and development become powerful discourses among developing countries which co-exist in an international category created by the industrial countries. The concern of historical responsibility brought the concept of ‘common but differentiated responsibilities’ to international climate negotiations, and this concept had become the powerful discursive tool in an artificially divided world between developed and developing parties. As a result, both at international and domestic levels, the rationality of development has become one of the crucial governmentalities for China in terms of politics and governance of climate change.

3.3 Market

Starting from the abstract dimension, the rationality of market is backed by neo-liberalism and it aims at establishing ‘politics via market’. The supporting knowledge is the liberal political economy, and the self-regulated subjects and society are the ideal condition for governance in which state intervention is expected to be excluded. While dealing with the environmental problem of ‘the tragedy of the commons’, the new source economists contend that the intervention from the government has brought the failure of the government. Based on the Austrian School of Economics, New Institutional Economics, public choice theory and the Chicago School, they thus argue that the environmental problems should be tackled through market mechanisms (Anderson 1982, Anderson and Leal 1991). This strand has brought free market environmentalism which argues to transform the environment and natural resources into property into debate. A clear attribution of property rights and a free mechanics of transaction is the best way to tackle environmental degradations/problems (Anderson

and Leal 1991). After the environment has been successfully privatised with clear property rights, the environmental disputes can be easily settled through advanced technologies (Anderson and Leal 1991). As discussed earlier, this techno-optimism appears in both realist and liberalist accounts and they both demonstrate a similar attitude when overlooking environmental problems. In short, free market environmentalism can be treated as the expansion of the governmental rationality of market based on liberalist traditions, this thesis argues. Due to the common interest of the economy over the environment, the rationalities of development and market are likely to work together to tackle environmental problems that market mechanisms are welcome in the discourse of sustainable development, as discussed in the last section.

Meanwhile, the governmental rationality of the market fits with the phenomenon of ‘politics via markets’, argued by Lipshutz with Rowe (2005). It is a phenomenon backed by the neo-liberal governmentality in current global politics. “*Today....there are no politics of any great significance. There are only markets masquerading as politics*’ (Lipshutz with Rowe 2005: 12, italic as original). In this neo-liberal context, the power of the sovereign is replaced by ‘governmental management’. While looking at the rapid growth of the global carbon market and carbon finance and the laggard state of international climate negotiations at the same time, there seems to be a trend to diffuse and install this neo-liberal governmentality to the whole world in terms of global climate politics, this thesis argues. Lohmann has made similar observations on global environmental politics. He argues that the mainstream framework aims to commodify the environment in order to ‘calculate’ the economic value of environmental objects. The market mechanisms are introduced in this commodification process to maximise the profits (2008). Based on this neo-liberal rationality, the global carbon market appears to be the most efficient solution when climate change is taken into account. The

mainstream ‘cap-and-trade’ trading scheme in the global carbon market has represented this market rationality that was promoted for decades (Dales 1968; Tietenberg 1980; Grubb *et al.* 1998; Nordhaus & Danish 2000; Stern 2007). Since emissions’ trading is assumed to be the most efficient and economical way to tackle climate change and to bring benefits to the buyers and sellers in the global carbon market, ‘let markets do it’ becomes a dominant rationality, witnessing the triumph of market ideology (Lipshutz with Rowe 2005).

As discussed in the last chapter, Bäckstrand & Lövebrand (2007) have also used the concept of governmentality to examine the current climate governance that green governmentality with ‘command and control’ logic was the dominant discourse in the early negotiation period, whereas decentralised ecological modernisation brought the market mechanisms and cost-effective concerns to global climate politics after the *Protocol* was concluded in 1997. This thesis has reviewed and criticised their arguments in Chapter Two and contends both green governmentality and ecological modernisation represent neo-liberal governmentality. Nevertheless, their findings still demonstrate the trend for commodification and marketisation in global climate change politics. According to these critiques, to keep focusing on the success or failure of international climate ‘politics’ is misleading. The expansion of capitalism and the liberal market to the atmosphere and the governmentality appearing in this process should be the focus of global climate change politics. This is also where the theme of ‘empire’ is involved, where the world is under ‘a single logic of rule’. Paterson and Stripple thus claim that this global culture of carbon management ‘puts the world’s entire biosphere under one type of rule’ where an ‘epistemological empire’ is formed (2007: 163).

While Communist China was established in 1949, it had a very weak industry sector as nearly 90% of its population lived and worked in the rural villages (Lin *et al.* 2000:

29). Meanwhile, the international political and economic pressures due to the Korean War and the economic blockade from the Western countries led by the US made the then Chinese government develop heavy industry first. This perspective led China to adopt the ‘forging ahead strategy’ which emphasised the monopoly role of the state to plan and direct the necessary resources to pursuit industrialisation. The 1st five-year plan (FYP) starting in 1953 confirmed the development of heavy industry as China’s core strategic concern. The rationality of development in China is rooted in this strategic concern, as discussed in the last section. Meanwhile, many other developing countries, socialist or not, also adopted similar strategies as newly independent countries in the post-war era tended to pursue economic growth through the interventions of the governments rather than the market mechanisms (Lin *et al.* 2000: 27-65).

The ‘forging ahead strategy’ stimulated the development of the industrial sector in China; however, it also distorted the economics so that nearly half of the investment went to the industrial sector. Meanwhile, it also created an economic system lacking stimulation and efficiency (Lin *et al.* 2000: 72-82). The end of the ten-year Cultural Revolution in 1976 not only represented the demise of utopian Maoism, but also brought the opportunity for China to readjust and reform its political and economic structures. China started its economic reform in 1978 when Deng Xiaoping came to power, and the market mechanisms were gradually introduced and the autonomy of enterprise was encouraged. This path of reform did not come from a well-articulated grand plan but started from measures gradually conceding rights and profits from government to enterprises and rural villages, in order to create the stimulus for production. In other words, the Chinese government, led by the pragmatic Deng, tried to keep the gradual pace of reform and constrain it in the economic sphere only. The market mechanism was firstly introduced to the Special Economic Zones (SEZs), and

then was gradually applied to the rest of the country after the experiment in these SEZs had successful achievements. This strategy has successfully brought rapid economic growth to China in the last three decades so that since 2010, China has become the second largest economy in the world (Barboza 2010). Meanwhile, when Deng carefully introduced the market mechanism to China at the beginning of China's economic reform, he also announced the Four Cardinal Principles in 1979, which were the (1) adherence to socialist road; (2) adherence to the people's democratic dictatorship; (3) adherence to the leadership of the Communist Party of China and (4) adherence to Marxism-Leninism and Mao Zedong Thought. These principles were officially recognised by the CPC as part of the prior guidelines which constituted the 'Socialism with Chinese characteristics'. This attitude was restated by President Hu on the 90th anniversary of the CPC in 2011 and he claimed that "the socialist road with Chinese characteristics is based on the centrality of economic growth, the adherence to Four Cardinal Principles, the adherence to reform and open policy and the concern of Chinese circumstances under the leadership of the CPC" (China Review News 2011). Apparently, the market mechanism in China has never been an ideal type of free market as it has to meet the needs of Chinese circumstances, socialist concerns and the state control. In short, although the concept and practices of the market was foreign to China, the market was gradually introduced to Communist China in the late 1970s and it formed a certain governmental rationality to keep boosting China's economic growth. Nevertheless, whether the definition of the so-called 'socialist market economy' is clear or not, this path of marketisation is under the government's control in order to prevent the radical reform in other spheres of the society. China's acceptance of the market mechanisms should not be understood as merely the expansion of the liberal market and neo-liberal hegemony around the world.

The market mechanism was not only introduced to China for its economic reform, but it was also deployed as a governmental tool to tackle environmental problems, which will be discussed in Chapter Five. In this section, many criticisms of the marketisation strategy in environmental governance have been discussed. All these criticisms point out and challenge the current relations between state/politics and market/economy in global climate politics, which is the retreat and disappearance of the political sphere and the expansion of market forces. This is the background why Lipshutz with Rowe appeal to ‘bring politics back in’ (2005). Nevertheless, this thesis has argued in Chapter Two that market rationality alone is not the only determinant force driving global climate politics. While disclosing the dominance of capitalism and market ideology, it is also important to examine other competing and conflicting rationalities. Moreover, these criticisms have implied a one-dimensional and universal process in global climate politics where market rationality triumphs alongside the expansion of the global carbon market. What if politics never withers away, but just transforms itself under the guise of the market? The encounter and competition among different governmental rationalities in China regarding climate politics is to be examined in the following chapters.

3.4 Environment

The rationality of the environment has brought environmental concern as the target of governance so that the relation between human society and the environment is reconsidered. Based on this rationality, the bureaucratic structure and policy orientation have adjusted themselves for the good of the environment, which requires human

interpretation. Regarding China, through an etymology-like study, Weller (2006) examines the words representing ‘nature’ in Chinese contexts. These include: *ziran* (自然) whose original meaning is closer to ‘self-evidently’ or ‘spontaneously’ and thus does not have the Western meaning of ‘nature’. *Tian* (天) means ‘heaven’ and ‘heavenly power’. This word constitutes one of the basic principles of traditional Chinese philosophy that is to pursue “the unity of heaven/nature and mankind” (天人合一, *tian ren he yi*) in which harmony between the human world and the environment is the ideal end. The term *shanshui* (山水) is about the landscapes in traditional Chinese paintings. The term *qi* (氣) refers to the cosmic energy that characterises everything from the human body to the natural environment of the world. However, generally speaking, there was not a specific term and concept being used in Chinese culture that was like the term ‘nature’ in the Western context. Nature in the Chinese context is an ambiguous concept that could be used for different purposes. This thesis argues that this ambiguous understanding has created the space for the practical engagement of environmental governance. Meanwhile, although pursuing the resonance between humanity and the cosmic order of heaven lies at the heart of Chinese philosophy; Chinese understanding of nature and the environment demonstrated a strong humanist perspective, due to the influence of Confucianism and Buddhism (Weller 2006). In other words, the exploitation and manipulation of the natural worlds for human’s needs was justified. Although cosmic resonance is always the ideal in Chinese culture, the underpinning narrative is still the practical and anthropocentric concern.³² It is a humanist interpretation of nature but, in the traditional Chinese context, the human exists not as an opposite to the natural world.

Since the early twentieth century, the Chinese have adopted the Japanese usage to

³² This thesis also argues that it is risky to use the term ‘anthropocentric’ to describe this traditional perception. Although it is a humanist understanding of nature, it is important to bear in mind that human society is not clearly separated from nature in China, as the *qi* can go through both the human body and nature.

translate ‘nature’ into the term *ziran*. In the Japanese context, the term *ziran*, nature, was treated as the opposite of culture, which demonstrated the similarity of the definition of nature by post-Enlightenment thought (Weller 2006: 43-47). Nature and culture, and human society, were split after the eighteenth century and this understanding was brought into China by Christian priests at that time. This dichotomy flourished in the second half of the nineteenth century, while China faced imperial invasions from the West. At that time, nature had been entirely “disenchanted, dispirited, and laid open for exploitation” (Weller 2006: 48). As discussed earlier, the strong sense of humiliation caused by the imperial invasions, which started when the Opium War was lost in 1842, had driven China to pursue modernisation and to achieve progress through technological reformation. This understanding of the split between nature and culture from the West had spread and achieved its dominance in China since the late 19th century, when China was eager to empower itself through the adoption of Western values. This post-Enlightenment perspective put nature entirely under human control, without considering the potential resonance between them. In the following turbulent years, this mentality was not challenged so that exploiting natural resources is treated as necessary to fulfil modernisation.³³

Communist China, under Mao’s rule, faced severe environmental degradations. It was ‘Mao’s war against nature’, in Shapiro’s words (2001). Under the anti-environment slogans of ‘Man must conquer nature!’ (人定勝天 *ren ding sheng tian*), and ‘Battling with nature is boundless joy!’ (與天鬥，其樂無窮 *yu tian dou, qile wu qiong*), China had gone through policies such as the Great Leap Forward and the Cultural Revolution, which lead to severe environmental pollution side effects (Shapiro 2001). Combining

³³ From the collapse of the Qing Dynasty in 1911, to the unification of China by the Communist Party in 1949, there were various warlords occupying different regions. However, despite their differences, these warlords were all modernisers who aimed at enhancing technological performances through exploiting natural resources, in order to beat their domestic enemies and catch up with imperialist rivalries. This mentality continued to exist across the strait after 1949 and both Mainland China and Taiwan have embraced the modernist and developmentalist path.

the ambitions of modernisation and anti-federalist ideals, traditional thoughts about nature were suppressed in Mao's China. In Mao's era, he aimed to remove the backward and outdated forces of feudal China by empowering the peasant and asking for personal sacrifice for the higher socialist utopian ideals (Shapiro 2001). He encouraged population growth to enhance productivity, which also brought environmental problems for the current generation. Before the 1980s, nature was treated as an object for human need and this was the dominant perspective in daily life. In other words, nature was entirely objectified and needed to be exploited and managed. Nature and the environment entered the Chinese mindset through the process of objectification based on the dichotomy between the subject and the object.

China did not recognise the importance of environmental problems until the 1970s. Internationally, China became more active in international environmental negotiations after entering the UN in 1971. Domestically, after the disastrous Cultural Revolution and other mass-line movements, China had to face environmental degradations caused by these revolutionary policies. The 1970s, after the Stockholm Summit in 1972, was also the period when environmental issues started gaining public attention around the world. Just as imperial China had learnt and absorbed the mentality of exploiting natural resources from the West in the nineteenth century, modern Communist China has gradually learnt the way to govern the environment since the 1970s. Although Deng's years did not cause as much direct environmental damage as Mao's period, the environment degradations were increasing during the process of urbanisation and industrialisation (Lam 2008; Zhang *et al.* 2007). Therefore, present Chinese leaders, unavoidably, have to face the environmental degradation caused over the last few decades. Domestically, environmental degradation and social imbalance were also part of the consequences of economic reform in China after three decades and, therefore,

these issues have to be taken into account more seriously as the related upheavals might challenge the legitimacy of the current regime. Recently there are growing numbers of environmental protest in China (RedOrbit 2008). The SEPA reported there were over 50,000 environmental protests in 2005 (Go *et al.* 2010). This phenomenon has demonstrated that the environmental quality has gradually attracted public attention, especially for the rising middle class in China (Moore 2009). For present Chinese leaders, to tackle environmental degradation whilst in pursuit of sustainable development has become one of the primary missions (Zhang *et al.* 2007).

To move to the institutional level, an environmental regulatory system was gradually established after the promulgation of the Environmental Protection Law in 1979 and environmental protection was officially recognised as a basic national policy in 1984. The principles of environmental protection were ‘prevention is the main, then control’, ‘polluter responsible for pollution control’, and ‘strengthening environmental management’ (Mol and Carter 2006). The National Environmental Protection Agency was promoted from the National Environmental Protection Bureau in 1988 and was given ministerial status as SEPA in 1998. It was eventually promoted to the Minister of Environmental Protection (MOEP) in 2008. Other environmental protection agencies function at provincial, municipal and county levels and co-constitute the vertical national regulatory framework. Besides these institutional dimensions, Mol and Carter also point out the characteristics of the transition of China’s environmental governance. First, the trend of decentralisation appeared in environmental governance as local governments and Environmental Protection Bureaus (EPBs) gained more flexibility and power to make their own strategic decisions, although local authorities are still facing GDP-oriented pressures. Second, the decision-making on production was slowly transferred to the economic domain in which the market principles were dominant (Mol

and Cater 2006: 156). Last, the rule of law was emphasised as the modernisation of environmental governance. At the same time, the principle was also tied up with the emergence of a market economy. However, the enforcement of environmental laws remains difficult. In general, from Mol and Carter (2006), the way to tackle environmental degradation/problems has been integrated into a system of governance where plural agents and non-public forces are involved. Their argument represents the perspective of neo-liberal institutionalism/regime analysis and ecological modernisation by focusing on the decentralisation governance. This perspective is shared by Zhu from the GEF China.³⁴ Zhu emphasised the significance of establishing good environmental governance through the efforts of public-private partnership. “This (emerging) good governance should consist of governmental regulation, market guidance and public participation”. “The market, either it is a full private sphere or not, plays a more and more crucial role in tackling environmental problems. The government should encourage the private sector and the market to participate in the environmental governance” (Zhu, interviewed in 2009). In summary, modern China has learnt and accepted the way to consider the relationship between nature and human society mainly from the West, regardless of the fact of whether it is about the exploitation, conservation or protection of natural resources.³⁵ The environment gradually becomes the object of management and governance in China. However, the rationality of the environment has to interact and compete with other governmental rationalities. This thesis thus argues that within the specific historical path in China, the natural resources are monopolised by the state, the exploitation of the environment is for the country’s development and the objectification of the environment creates the possibility of commodification when

³⁴ Administratively, this office is regulated by the MOEP and the interview was, therefore, held in the new building of the MOEP.

³⁵ It does not mean that the traditional understanding of nature has been abandoned entirely. Some crucial ideas, such as harmony between humans and the heavens, are frequently used in daily life. However, a different understanding based on the dichotomy has penetrated into modern China.

the environment is governed through a market mechanism.

3.5 State, Society and the Party in China

After reviewing the development of four governmental rationalities underlying China's politics and governance of climate change at both the international and domestic level, this section moves to discuss the relation between state and society and the particular role of the Communist Party of China (CPC) within it. It is to demonstrate the context and the background in which these four governmental rationalities interact and compete with each other. The discussion starts from examining the sphere of civil society in China by taking Chinese environmental NGOs into analysis. Then the discussion moves to discuss the overwhelming role of the CPC in China and its self-identification, which heavily influences the development and transformation of different rationalities.

While considering the category of the society in China, the fact is that no matter how researchers and officers claim and praise the establishment of environment governance on the basis of public-private partnership (Mol and Carter 2006, Zhu 2007, NDRC 2010), it is hard to claim there is an autonomous and independent sphere of society in China. It is not just because authoritarian control and monitoring from the government is all around. It is also because of the shared understanding and mentality about the 'right' relations between the state and society in China. Almost all the campaigners the author has met, either from local or international NGOs, have emphasised the importance of cooperation with the government. The mission for the NGO, from this understanding, is to assist the government in those fields where effective governance has not been made, such as education or rural development. This good relationship with

the government is not necessarily an obstacle. Rather, it can facilitate the campaigns in many ways. This is not to claim that there is no resistance, dissent or civil movement against the state and government in Chinese society. As mentioned earlier, the civil protests and environmental movements around issue of pollution are growing and this phenomenon is even treated as a ‘new democracy movement’ (Liu 2007). However, by examining the interaction and relations between environmental NGOs and the government, and more importantly, the shared governmental rationalities in this relation, it is clear that the Chinese state and society are not standing in opposing positions. Over 35 Chinese environmental NGOs have worked together to provide a coherent position of Chinese civil society on global climate change (FON 2007a, 2007b, 2007c). These NGOs, international or not, clearly articulate that they can help promote China’s conditions and efforts to the world through better communication. (FON 2007c: 72, 78). Domestic research and campaigns can help raise public awareness, improve corporate social responsibility and facilitate policy making and implementation. These efforts from Chinese civil society are highly praised by the state (NDRC 2010). As a result, this thesis contends that it is premature to treat emerging environmental protests as democracy movements (Liu 2007), as long as the legitimacy and accountability of the CPC has not been seriously discussed and challenged during these movements.

As Hsia and White have pointed out, while asking about the state-society relationship, it is crucial to clarify what kind of civil society is discussed, “[w]hether as a powerful force *against* the state, as it is often seen in the West, or as a powerful force working *with* the state, to provide services the state cannot” (2002: 347, italic as origin). Wright (2010) also argues that the dominant status of the state and the strong support from the Chinese society to the CPC are due to these reasons: (1) state-led economic development policies, (2) late industrialisation and (3) socialist legacies. The

achievements of economic reform in the last three decades in China have made the Chinese public and entrepreneur ‘accept authoritarianism’, especially those groups that have special connections with the state. Meanwhile, the relatively late opening up to the global market has diversified workers whereby those in the public sector benefit from the economic reform and thus are more competitive than farmers and private sector workers. A polarised social structure has gradually appeared since the economic reform. The rich minority shows less interest in political reform which will challenge the legitimacy of the CPC. Neither do the majority in the lower social stratum want to pursue political reform, since they all benefit from the social setting in China to varying degrees. The socialist legacies have privileged the urban residence, which means Chinese citizens are also diversified between the urban and the rural areas. It thus becomes difficult to raise a common appeal for political reform (Wright 2010).

This thesis does not pose a liberal understanding that separation and confrontation between the state and society is necessary. Rather, what this thesis claims is to examine, historically and contextually, the relation between these two spheres. A Western model of state-society needs a (neo-)liberal way of governing through the market, society and private sectors, or it can govern through hegemony in the civil society. Nevertheless, are similar ways of governance needed in an authoritarian state? Historically, in China, there is no clear distinction between society and the state (Shih 2001). To treat society as an independent, autonomous and even resistant entity, based on the Enlightenment tradition, does not exist in China. As a result, the state-society relation, even in authoritarian China, cannot be understood as one-dimensional, as if society is simply oppressed and guided by the state. It is a cooperative relation based on non-confrontation, which seeks common goals between the state and society (Brook and Frolic 1997, in Schwartz 2008: 68). The rationalities of sovereignty and development

are shared by the majority of society and the state. Meanwhile, the state represented by the CPC government is assumed to be the legitimate authority to pursue and fulfil the goals based on the rationalities of sovereignty and development.

At the same time, it is necessary to examine the role of the CPC in China's political structure in order to grasp the dynamics among different governmental rationalities more clearly. As the only legitimate party to rule the country, the CPC has the overwhelming power to control, not only society, but also the state apparatus.³⁶ It is the CPC who controls the military and it is the Party who takes political decisions, rather than the other levels of governments. McGregor (2010), a journalist for the *Financial Times*, has written a detailed book on the relation between the CPC and the government in China and, specifically, how the CPC rules China. The CPC exists outside the legal system. He Weifang, a law professor at Peking University, told McGregor that "[a]s an organisation, the Party sits outside, and above the law" (2010: 22). In China, "this doubling of power between public and hidden realms is itself institutionalised" (Žižek 2010: 9). The status and role of the CPC should be understood through this context.

Although the CPC has transformed itself from the revolutionary party to the ruling party, it still has to face the question of its legitimacy. Where and how can the CPC have this dominant role in China, and how to maintain it? In order to depict the essence and characteristics of the rule of the CPC in China, Wang (2008) introduces the concept of a 'post-totalitarian socialist developmental state' (PTSDS). The post-totalitarian feature explains that the CPC has lost the absolute dominance of ideology, comprehensive social control and the massive social revolution. Nevertheless, the CPC still maintains a one-party system and its control over the media, education, and the military. Wu (2007) points out the characteristics of the developmental state, which appears in other East Asian countries, in the post-totalitarian CPC regime. Wu argues that the reform of the

³⁶ Zhao Zhiyang, the then General Secretary of the CPC in the 1980s once tried to separate the party from the state apparatus, but his attempt failed with the Tiananmen Square accident in 1989.

CPC after the end of the cold war allowed it to adapt itself to a post-totalitarian capitalist developmental state in order to maintain political control and economic growth at the same time. Wang inherited Wu's concept but argues that the socialist feature still plays an important role in the CPC regime and, as a result, his concept of PTSDS are in table 3-1,

Table 3-1: Features of Post-totalitarian socialist developmental state

Field	Theoretical Explanation	Features
Politics	Post-totalitarianism	The CPC has control over society
Economy	Developmental State	State intervention for economic growth
Society	Socialism	Welfare policy

Source: Wang (2008)

This thesis argues that this PTSDS description of the CPC regime in China is convincing in varying degrees. To put the CPC in a historical context, a communist party cannot escape from its duty to provide social welfare, to correct domestic imbalance and to pursue an equal society. Nevertheless, this thesis also argues that after economic reform since the late 1970s, the astonishing level of economic performance in the last three decades has created another aspect of legitimacy for the CPC, which is based on the capability of creating fortunes and prosperity. That is one of the reasons why China's stance becomes so stiff when developing countries are asked to commit reduction obligations. It is not only because the sovereignty is violated or threatened but because the CPC cannot run the risk of endangering the path of economic growth in China by accepting reduction obligations, since economic performance is one of the key sources of its legitimacy. Regarding the legitimacy of the CPC, Laliberté and Lantigne claim that there are three bases of legitimacy claims in China. These are economic performance, stability and nationalism (2008b). Žižek also argues,

The Party maintained its hegemony, not through doctrinal orthodoxy (in official discourse, the Confucian notion of the Harmonious Society replaced practically all reference to Communism), but by securing the status of the Communist Party as the only guarantee of China's stability and prosperity" (Žižek 2010: 8).

This thesis argues that these legitimacy claims should be integrated into the framework of governmental rationalities. The sovereignty rationality has appeared in the nationalist appeals. Meanwhile, the rationalities of market and development have appeared in the pursuit of economic performance, where the market rationality has been instrumentalised. The environment rationality has been incorporated and dispersed into the concerns for economic growth and the territorialisation of climate change.

3.6 Governmental Rationalities Facing the Politics of Climate Change

After discussing the emergence of four governmental rationalities and the state/society relation in China, this section will demonstrate how these different rationalities appear and influence the shaping and the understanding of China's politics and governance of climate change at both international and domestic levels. The interviewees of this thesis and the phenomenon observed from the research fieldwork are the main sources in this section. These sources not only demonstrate how these four rationalities underpin and direct China's climate politics at international and domestic levels, but also how different rationalities are accommodated.

When the issue of international climate change politics is taken into account,

sovereignty becomes a fragile entity which is under threat from the outside world. During the fieldwork trip for this thesis to Beijing in summer 2009, besides the interviews, the author also had the chance to attend some symposia on climate change. One of the symposia was the 'Media Summit on Climate Change and Low Carbon Development - China's Voice' held by the Energy Foundation, a semi-official NGO, and the Global Village of Beijing, one of the leading environmental NGOs in China. Most attendants at this event were journalists and the main purpose of this event was to provide the chance for the Chinese media to have a further understanding of China's roles while facing climate change in order to produce more correct coverage on China's contributions. The opening lecture was given by Qin Dahe, a senior meteorologist and an academician of the Chinese Academy of Science. Qin served as the head of the China Meteorological Administration and was also the chairperson of the first working group of the IPCC. In other words, he can be seen as the authoritative voice of China's climate science. After a long and detailed speech, one journalist asked a short question: Is climate change a Western plot? Qin gave this journalist a very official answer about the scientific foundation of this issue and this discussion did not continue. However, considering the backgrounds of the attendants, this thesis does not think this question came from ignorance of the issue.³⁷

This journalist is not the only person who treats the need to tackle climate change as a Western plot. After the chaos of the Copenhagen Conference, China soon became the target of the blame game in the international media (Lynas 2009, Miliband 2009, Spiegel Online 2009) whilst, at the same time starting to fight back. Pan Jiahua, the leading researcher on China's climate policy and the then deputy director of China's

³⁷ This question sounded bizarre not just because it came right after a very detailed lecture but also because those attendants were journalists in charge of environmental coverage, which meant they should be familiar with the seriousness of climate change. Moreover, almost all the official documents, including the directive *National Programme on Climate Change*, which was released in 2007, have recognised the scientific findings from the IPCC and most of the disputes in international climate talks China had with other countries are not about the scientific grounds.

advisory delegates in the Copenhagen Summit, warned at a symposium on the post-Copenhagen situation that climate change is a “Western trap covered by flowers”. China should not tackle climate change by sacrificing its own economic development. Pan mentioned, “Climate change is a political issue, it is like a mountain which is too high to be climbed. For China, there is no cable car to the top of the mountain” (Zhang 2010). Pan has constantly led the think tank on China’s policy and politics of climate change, especially on issues of diplomatic strategy, the CDM and sustainable development. This thesis has interviewed three of his fellows and has watched his on-line lectures and that was the first time such fierce language was used from this research group. This thesis contends that these attitudes did not appear accidentally. Instead, they just reflected China’s constant scepticism about the essence of international climate change politics. These cases just implied that climate change might just be a Western tool to endanger China’s sovereignty and development.

While discussing how China reacts to the challenge of climate change, almost all interviewees in this research had pointed out that the 20% energy-intensity target China has set up for its 11th five-year plan (FYP) (2006-2010) is tough and even ‘tortuous’ for China and that the whole world should recognise and appreciate China’s sacrifice and contribution.³⁸ “It is unfair that the world ignores China’s efforts but praises the changes from the US after President Obama came into power,” said by Zhu Liucui, the deputy Director of the China GEF Office (interviewed in 2009). “The US is like a villain”, he concluded. In the media forum, the host told the participating journalists that they

³⁸ Many interviewees in this thesis agreed that it is a tough task but that it can demonstrate China’s political willingness to the world. The officials the author has met in different symposia also hold similar and optimistic attitudes. Chen Ying, from the Chinese Academy of Social Science (CASS), was the only interviewee who was worried that this target might not be reached. This thesis undertook the fieldwork in 2009 when the world was suffering from an economic recession due to the global financial crisis. Chen analysed that this was the reason why China could still be on track at that moment to reach that target. “The economic recession had brought a decline in the demands from the industrialised countries, which influenced China’s manufacturing industry and thus decreased their energy usage”. “However, as soon as the global economy recovers, the need for energy will rise and it will be more difficult to fulfil the target” (Chen, interviewed in 2009).

should let the world be aware of how much contribution China has made. In short, while wondering why international society is so dissatisfied with China's performance, China's mainstream perspective is that it has not propagandised itself enough. The author has asked the interviewees why this stark task cannot be represented as a quantified target. Almost all of the interviewees agreed with the government's stance that a legally-binding commitment of emissions reduction was not acceptable for China. Nevertheless, they also agreed that China should keep devoting itself to its National Appropriate Mitigation Actions (NAMAs) and elaborating China's efforts and contributions through clear numbers. The insistence on China's autonomy to develop its mitigation and adaptation measures has demonstrated the influences of the rationalities of sovereignty and development underpinning the understanding of China in international climate change politics.

This mentality also explains why instead of the MOEP, it is the National Development Reform Commission (NDRC), a government organisation working on promoting China's economy growth and development through macro regulation, which is in charge of China's politics and governance of climate change at both international and domestic levels. Climate change is never a scientific or environmental problem. It is an economic, political and, essentially, a development problem in China. Chen Ying from the Chinese Academy of Social Science (CASS), an expert on the economics of climate change and relevant development policy, expressed in the interview that "the MOEP does not have the capability to tackle climate change since climate change is not just the 'governance at the endmost' problem". "It is related to a grand strategy and sustainable development for China and that is the reason why the NDRC is in charge of climate policy" (Chen, interviewed in 2009). During the interview, Chen introduced a research conducted by her fellows in the CASS from 2007 to 2008. This large scale

research is to explore the attitudes of Chinese college students toward climate change (Luo *et al.* 2009). Chen emphasised the importance to have *correct* knowledge about China's positions and attitudes concerns in international climate change politics. This knowledge is based on the understanding of historical responsibility and per capita emissions which accommodates China in the developing world where China is more likely to keep its autonomous path. Ang Li, who was in charge of international climate negotiations from the Worldwide Wildlife Foundation (WWF), said that the WWF and other NGOs had once initiated a proposal to categorise China and some other developing countries into 'emerging economies' in the international negotiations. However, this proposal was fiercely rejected by the Chinese government, which demonstrated that the tie between China and the whole developing world should not be broken. To stay in the developing world and to treat the developing world as a whole is a way to keep China from committing to legally-binding agreements. Again, the understanding of China's foreign politics of climate change is directly linked to the concern of sovereignty and development.

Regarding the role of the market and business in the governance and politics of climate change, all interviewees agreed with the positive achievements of the market, especially the Clean Development Mechanism (CDM), in international climate politics. China should keep engaging in the global carbon market and enhance its pricing and discursive power in the market through more active participation. The negative effects of the CDM implementation were rarely mentioned during the interviews.³⁹ CDM was basically treated as an effective *tool* to fulfil China's goal of sustainable development from almost all of the interviewees. It is apparent that the acceptance of this particular market mechanism is for the need of the state's development, as discussed earlier. As for the domestic business, although Zhu from the GEF China had emphasised the

³⁹A more detailed discussion on the CDM in China will be made in Chapter Five.

importance of establishing good new environmental governance in which the government, business and market, and the public were involved, Chen from CASS had different observations. She pointed out that the climate governance in China is a ‘top down’ and ‘internalisation’ process for business. For most businesses in China, “climate change is treated either as a profitable object, through the introduction of the CDM, or as an administrative target about emissions’ reduction assigned by the government”. “The later one is closer to the mainstream understanding in Chinese society, which is through the policy of ‘saving energy and reducing emissions’ (節能減排 Jieneng Jianpai)” (Chen, interviewed in 2009). It is a clear national goal with a simple slogan, in which the concerns of mitigation, energy security and energy efficiency were all included. To sum up, to pursue development remains China’s primary goal while adopting the market mechanism as a governing tool in China’s climate governance.

3.7 Conclusion

This chapter has discussed the emergence, adoption, interpretation and transformation of four governmental rationalities in China. Meanwhile, the contexts of state/society/party relationship are analysed as well. How these rationalities interact to direct China’s politics and governance of climate change politics at international and domestic levels will be analysed in the next two chapters. Through the introduction of the revised framework of governmentality, this thesis tries to depict a more comprehensive picture in which different contingencies bring different governmental rationalities into China. From previous analysis, it is apparent that the interplays among these rationalities are uneven: the rationalities of sovereignty and development were

made prior to the rationalities of market and environment. The rationalities of sovereignty and development have become the pivots of China's foreign politics, which will be discussed in the next chapter. Due to its specific historical path, the state and society in China are obsessed with the rationalities of sovereignty and development in order to fulfil the dream of modernisation. Nevertheless, the overwhelming role of the CPC has made it the representation of the state and sovereignty. Meanwhile, economic development has become another source of legitimacy for the CPC. As a result, in international climate negotiations, Chinese delegates become very sensitive to any proposal which implies challenging China's sovereignty and development. The concessions for these issues will bring crisis to the ruling of the CPC. The rationalities of sovereignty and development, this thesis argues, have formed the dominant mentality of government in which the right disposition of things is directed through relevant knowledge. The 'conduct of conduct' which defines the problem and provides the solution is shared through individuals to collectives.

Comparing the dominant rationalities of sovereignty and development, the rationalities of market and environment are instrumentalised, or in other words, they are treated as technological issues which serve to fulfil the goal of development. They both represent new arts of government in China's climate diplomacy and domestic governance. The introduction of market mechanisms, either for China's economic reform or environmental governance, is due to China's specific needs, and the path is monitored and maintained in the desired direction by the CPC government. The detailed account of China's encounter with the expanding market force in international climate talks and at its domestic level will be discussed in Chapters Four and Five. Meanwhile, the environmental governance on climate change can be fulfilled either through market mechanisms such as the CDM or through administrative measures such as the fulfilment

of the energy intensity target in the 11th FYP (Southern Weekly 2010). The promise must be kept, the targets must be fulfilled and the environment including the atmosphere must be governed. It is not only for the concern of environmental protection, ecological conservation and public health, but also for creating profits and development, improving the international image and enhancing the legitimacy of the CPC.

As a result, climate change has essentially become a side issue of China's grand strategy. How to pursue development based on economic growth and in the name of sustainability, how to protect energy security and how to reform the energy structure in order to create more profits are more important in China's politics and governance of climate change, internationally and domestically. In other words, how to transform the threat of climate change into opportunities and profits has become the main task. The significance of the rationality of the market has to be grasped from this framework as there is an underpinning instrumental logic in introducing, deploying and controlling the market mechanism in China. Meanwhile, the tolerance from the CPC on the development of environmental NGOs should also be understood through this framework, as analysed in the previous paragraphs. To see the environment as the object of governance not only enhances the legitimacy of the CPC by responding and resolving environmental protests through technological, not political solutions; but also provides the legitimacy to reterritorise control over natural resources including carbon emissions and carbon sinks. The later advantage also facilitates the pursuit directed by the rationalities of sovereignty. The rationalities of market and environment appear as the new arts and mentalities of government along with relevant knowledge and techniques, however, they co-exist and compete with the other two dominant governmental rationalities in the Chinese context to comprise the 'mixture of governmentalities' directing China's climate politics at international and domestic levels.

4. China and International Climate Change Politics

1st October is the National Day of China and there follows a week-long holiday. However, Chinese officials from the National Development and Reform Commission (NDRC) and the Ministry of Foreign Affairs (MOFA) were too busy to take their holidays in 2010. The last international meeting before the Cancun Summit in Mexico, at the end of 2010, was held in Tianjin, the leading eco-city in China in early October. After the disappointing Copenhagen Summit in 2009, and the failure of the climate legislation in the US Senate, expectations were low that the Cancun Summit would reach a binding climate treaty (Vidal 2010, AFP 2010, Johnson 2010). The spread of pessimism had kept other states from holding any pre-Cancun negotiations, since so many divergences remained unfixed. However, China came forward and took on the job of hosting this final tough meeting. This was the first time that China had hosted a UN-level conference on climate change. No matter what the result, China's stance has demonstrated its positivity and confidence in global climate politics. China remains firm on its core principles but its positive image has been different from the criticism it faced right after the failure of the Copenhagen Summit (Miliband 2009, Lynas 2009, Spiegel Online 2009). As discussed in Chapter One, China has multiple faces in global climate politics. It has been the biggest CO₂ emitter since 2007, the biggest energy consumer since 2010, the most active state in the CDM market and the biggest investor in clean energy since 2009. Meanwhile, rapid and constant economic growth over the last three decades made China the second largest economy in 2010. These facts have demonstrated China's particular role, both positive and negative, in global climate politics. The core questions of this chapter are thus: Is China a complier or an obstructer

in global climate politics? How do researchers grasp the dynamics of China's climate diplomacy? What are the underpinning rationalities in international climate politics and China's climate strategy?

In Chapter Two, this thesis critically reviewed the practical and theoretical limitations of mainstream neo-realist and neo-liberal institutionalist approaches when they are applied to global climate politics and China's foreign politics within it. Both approaches tend to reframe new issues, such as climate change, into their own existing framework in order to 'solve' or 'manage' the problem. However, what is ironic is that, although having their own theoretical flaws, the language from both approaches is widely used when people discuss climate politics. China's cooperative and obstructive images can both be depicted by these two approaches at different moments. This fact simply explains that both mainstream approaches fail to grasp the deeper dynamics of global climate politics and, instead, they can only focus on the 'events' around nation states. The power/knowledge and the underlying rationalities forming climate change and its responses are neglected in the mainstream approach. Therefore, one of the aims of this chapter is to apply the revised governmentality approach discussed in Chapter Three to examine the governmental rationalities underpinning China's roles, strategies and self-identification in international climate politics. This chapter argues that while climate change has been gradually politicised in the last two decades, a green governmentality along with ecological modernisation has also emerged globally in order to govern and manage the global atmosphere through market forces. In Newell and Paterson's words (2010), it is the rise of 'climate capitalism'. However, this capitalist force is not the only dynamic in global climate change politics. The trend of 'reterritorialisation' has to be re-examined to see how it interplays with this new capital force. Is 'state' merely the agency of this climate capitalism or is there the possibility of

resistance or counter-hegemony mobilised by the state? While a global norm of climate change is gradually formed, can the developing world escape, break, or even challenge the ‘imperial gaze’ from the North? While facing the expansion of global climate capitalism, what governmental rationalities drive China’s responses?

This chapter starts from the review of the progress and developments in global climate politics, from the pre-Kyoto negotiations to the Copenhagen Summit. The aim is to provide a background of the direction of international climate negotiations. The main players and controversies are elaborated clearly in this section. Section 4.2 reviews the development of China’s foreign politics. The aim is to contextually explore the underlying principles in China’s foreign politics, which demonstrates the significance of certain governmental rationalities. Section 4.3 moves to examine China’s understandings, responses, strategies, and self-identification in international climate politics. China’s attitudes toward different issues and China’s bilateral and multilateral interactions with other major parties will be examined, in order to grasp the influence of crucial governmental rationalities. The detailed analysis is made in the conclusion.

4.1 Global Climate Change Politics: From Kyoto to Copenhagen

Climate change is a quintessential global environmental issue, which means its causes and consequences can hardly be grasped solely through the state system, based on the artificial separation of the earth. Nevertheless, global climate change politics in the last two decades have still been developed mainly through cooperation and conflicts between nation states. Before further critical reflection, a historical review on the development of global climate change politics is made in this section. From the

perspective of mainstream global governance/liberal institutionalist approaches, progress can be shown in Table 4-1, which also forms the common understandings of the achievements of global climate politics. In Paterson's words, this is the process where 'global warming becomes politicised' (1996a).

Table 4-1: Development of Global Climate Change Governance

Time	Critical Events	Main Achievements
1988	The establishment of the IPCC	The IPCC is in charge of forming knowledge of climate change and providing scientific assessments and policy suggestions.
1990	The First IPCC Report	
October to November, 1990	The Second World Climate Conference	The Ministerial Declaration asked the UN General Assembly to establish a negotiation forum of an international climate convention.
June, 1992	The United Nations Conference on Environment and Development (Earth Summit) at Rio, Brazil	The conclusion of the <i>Rio Declaration on Environment and Development</i> , the <i>United Nations Framework Convention on Climate Change (UNFCCC)</i> , <i>Agenda 21</i> , the <i>United Nations Convention on Biological Diversity</i> .
21st March, 1994		The UNFCCC entered into force.
March, 1995	The first COP to the <i>Convention</i>	The conclusion of the <i>Berlin Mandate</i> , which set up the target to enhance the reduction obligations of developed countries.
1995	The Second IPCC Report	
December, 1997	The third COP to the <i>Convention</i> at Kyoto, Japan	The conclusion of the <i>Kyoto Protocol</i>
November, 2000	The sixth COP to the <i>Convention</i> at Hague	Collapse of the talks due to great divergences between the US and the EU
January, 2001	The Third IPCC Report	
March, 2001		The US withdrew from the <i>Kyoto Protocol</i>
July, 2001	The resumption of the sixth COP to the <i>Convention</i> at <i>Bonn</i>	The <i>Bonn Agreement</i> accepted the flexible mechanisms and the carbon sink. The compromise made by the EU saved the <i>Protocol</i> .
October, 2001	The seventh COP to the <i>Convention</i>	The <i>Marrakech Accord</i> , which made concessions to the Umbrella countries in order to realise the <i>Protocol</i> without the participation of the USA
August to September, 2002	World Summit on Sustainable Development in Johannesburg, South Africa	
October, 2002	The eighth COP to the <i>Convention</i>	The <i>Delhi Declaration</i> in which sustainable development is the basic framework used to tackle climate change

November, 2004	Russia ratified the <i>Kyoto Protocol</i>	
16th February, 2005	The <i>Kyoto Protocol</i> entered into force	
November to December, 2005	The eleventh COP to the <i>Convention</i> and the first COP to the <i>Protocol</i>	The <i>Montreal Roadmap</i> : setting up the dual-track negotiations in the <i>Convention</i> and the <i>Protocol</i> .
2007	The Fourth IPCC Report	
December, 2007	The thirteenth COP to the <i>Convention</i> and the second COP to the <i>Protocol</i>	The <i>Bali Roadmap</i> which set up the target for concluding the post-Kyoto framework in 2009.
December, 2009	The fifteenth COP to the <i>Convention</i> and the fifth COP to the <i>Protocol</i>	The <i>Copenhagen Accord</i> which had no binding agreement.

4.1.1 The Politicisation of Global Climate Change

The international negotiations on climate change began in 1990 and the first positive achievement was at the Earth Summit in 1992 with the conclusion of the *United Nations Framework Convention on Climate Change* (UNFCCC, hereafter referred to as the *Convention*). The *Convention* entered into force in 1994 and pointed out the five basic principles for tackling climate change. These are: (1) the equity principle based on ‘common but differentiated responsibilities’; (2) the special circumstances of developing countries; (3) the precautionary principle; (4) sustainable development; and (5) an open international economic system that would lead to sustainable economic growth and development (Article 3, the UNFCCC). These principles set up the framework for the international climate negotiations in the following years. More importantly, in terms of climate change, the world was, subsequently, divided into two parts: Annex I parties, which consist of industrialised countries and countries undergoing economic transition and non-Annex I parties consisting of most developing countries. The obligations to tackle climate change were also split between these two

groups so that developed countries were asked to take action first. Although the *Convention* is not a binding treaty, it has gradually and successfully integrated almost the whole world into its framework through which climate change is now recognised as a common threat. The principle of ‘common but differentiated responsibilities’ represents the historical and developmental dimensions of this global issue. It does not matter if the *Convention* has its own enforcement power or not. The crucial effect is that it has installed the concerns about climate change into different dimensions in different countries, which has started to transform the dynamics of human society, domestically and internationally. In other words, the *Convention* framed the discourse and the storyline in global climate politics.

The following step was the journey to reach a binding treaty at the Kyoto Summit in 1997. During the process, although many international organisations were involved (mainly UN-based ones and INGOs), national governments were still the main players.⁴⁰ State groups, which were roughly differentiated between developed and developing worlds, formed the primary actors in international climate change politics.⁴¹

(A) Developed Countries.

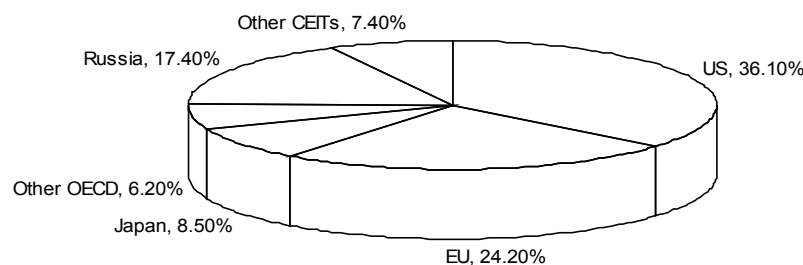
Among industrialised countries, there were two groups; one was the more ambitious

⁴⁰ Engaged international organisations included the UNEP, the IPCC, the WMO, the UNDP, the World Bank and the GEF. Important international NGOs in international climate negotiations included Greenpeace, the Climate Action Network (CAN), Friends of the Earth (FOE) and the World Wildlife Foundation (WWF). Beside these two groups, business groups such as the International Chamber of Commerce, the World Business Council for Sustainable Development (WBCSD) and the global mass media also engaged in the negotiations.

⁴¹ There were also a few factors which influenced each government’s attitude, behaviour, standpoint and strategy, such as the domestic condition of dependence on fossil fuels, the vulnerability of the impact of climate change and the potential costs and benefits of adaptation and mitigation measures. Besides these direct factors, some indirect ones, such as culture and institutional structures, also influence each national player’s decision-making (Oberthür and Ott 1999). Paterson (1996a) also argues that there are three factors influencing states’ positions in the international climate negotiations, which are energy dependence, the influence of the international political economy and the perceptions of the costs of impacts.

European Union, which acted as the leader in the industrialised world. The other one was an unofficial coalition known as **JUSSCANNZ**, comprising Japan, the United States, Switzerland, Canada, Australia, Norway, and New Zealand.⁴² The situation of energy efficiency, the dependence on fossil fuels and cost concerns had directed countries into this loose group in order to oppose a stringent commitment proposed by the EU.

Figure 4-1 CO₂ Emissions of Industrialised Countries in 1990



Source: *Kyoto Protocol*, 1997

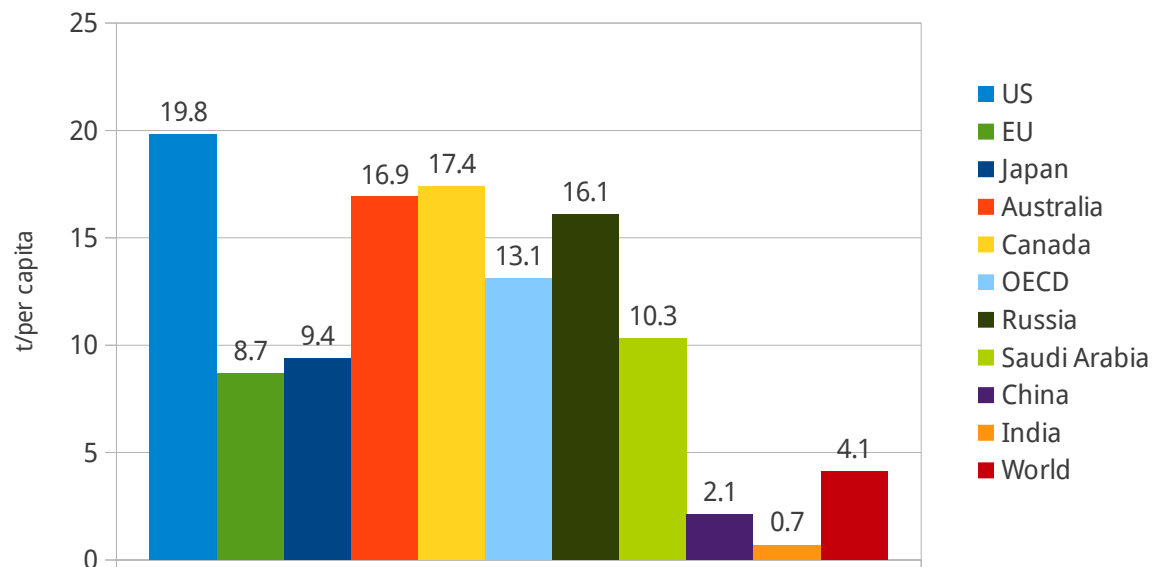
(B) Russia and the ‘Countries with Economies in Transition’

After the collapse of the Soviet Union in 1989, former communist countries in Eastern Europe were categorised as ‘countries with economies in transition’ (CEITs), of which Russia was the most important one. The per capita CO₂ emissions of Russia was very close to the US in 1990 (see Figure 4-2). However, this number has fallen dramatically since then, by about 30%, due to economic decline. This situation has created a potential profit for Russia and other CEITs when complying with reduction

⁴² Iceland and South Korea sometimes also participated in the JUSSCANNZ meeting. When Russia was included in this group, it was often referred to as the *Umbrella Group* consisting of non-EU Annex I countries.

commitments, creating the problem of ‘hot air’, which gives these CEITs extra emission allowances (Oberthür and Ott 1999).

Figure 4-2: Per Capita CO₂ Emissions of Major Countries in 1990



Source: adapted from Oberthür and Ott (1999).

Countries listed above were displayed from left to right in Figure 4.2

(C) Developing Countries

After the Second World War, the category of ‘developing countries’ appeared in international politics, partly due to the anti-colonialism movement and partly due to the power of ‘development discourse’ (Adams 2001: 1). The most important organisation of developing countries is the Group of 77 (G-77) established in 1964, which now has more than 130 member states. China often cooperates with the G-77 in international politics, known as the **G-77 plus China**. Additionally, the developing world also

consisted of different voices. One of these voices was the **Alliance of Small Island States (AOSIS)**, which was more vulnerable to the threats of climate change. AOSIS was more aggressive towards pursuing a relatively stringent international climate agreement and supported ‘voluntary commitments’ for developing countries. The other one is the **Organization of Petroleum Exporting Countries (OPEC)**, which made its major profit by exporting oil and gas and had higher per capita CO₂ emissions than other developing countries due to the process of oil production (See Saudi Arabia in Figure 4-2). As a result, OPEC was more cautious about the international climate deal. The divergences within the developing world were getting bigger as some developing countries, such as China, India and Brazil, had better economic performances than others and their GHG emissions were growing fast. The rising trend of GHGs in major developing countries made it clear that the participation of these countries in the binding agreement had emerged as one of the main disputes during the negotiations, which also influenced the solidarity of the developing world.

In summary, ‘equity’ was the main concern of the developing world throughout the negotiations. It was not acceptable to endanger the achievements of their social and economic developments by introducing obligations to reduction commitments. The industrialised countries should be responsible for historical GHG emissions, which had started to accumulate from the Industrial Revolution. Developed countries should also bear the cost of mitigation (Tóth 1999) and provide financial and technological transfers to developing countries. ‘Common but differentiated responsibilities’ was reaffirmed as the primary principle in the negotiations.

4.1.2 From Kyoto to Copenhagen

The Kyoto Summit started with mistrust and huge divergences among participating countries. The then US Vice President Gore restated the basic principles of his country, which were the inclusion of market mechanisms, ‘realistic’ targets and timetables and the meaningful participation of key developing countries (Oberthür and Ott 1999: 86). Nevertheless, India and China were strongly opposed to the emissions trading mechanism, although some other developing countries were willing to accept it.⁴³ Through the tough negotiations with the strong leadership of Chairman Estrada, the *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (hereafter referred to as the *Protocol*) was finally concluded as the first international legal treaty with direct targets to reduce GHG emissions. The goal was to reduce GHGs emissions by 5.2% during the period 2008-2012, compared to the 1990 level. Six gases were recognised as GHGs in the *Protocol*, which are Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur Hexafluoride (SF₆). The base year of CO₂, CH₄, and N₂O was 1990, and HFC, PFC, and SF₆ was 1995. Only developed countries listed in Annex I had the obligation to reduce their GHG emissions. They can fulfill their targets partly through individual measures and partly through three flexible mechanisms: Joint Implementation (JI), Emission Trading (ET) and the Clean Development Mechanism (CDM). It was prominent progress for international climate change politics. However, it also represented a huge compromise in terms of the commitment period, reduction targets, lists of GHGs and flexibility to reach the targets.⁴⁴ These flexibilities in the

⁴³These countries included South Korea, the Philippines, some Latin American countries and small island states.

⁴⁴ Some industrialised countries, such as New Zealand, Russia, and Ukraine, did not have reduction targets and some others, Norway, Australia, and Iceland, were even allowed to increase their emissions. The EU was treated as a unity, which also brought flexibility to allocate its inner targets. Meanwhile, the list of six GHGs enabled different reduction measures, which were fixed to different countries.

Protocol have also represented the *domestic* concerns of different countries in this international negotiation.

Nevertheless, it took another eight years to make the *Protocol* enter into force.⁴⁵ The withdrawal of the US under the Bush administration in 2001 almost brought the *Protocol* to a desperate end but which then also gave Russia strong bargaining power. Just like the continuing conflicts during the negotiations, the *Protocol* itself is actually the crystallisation and extension of existing divergences. The tension between the EU and the US, between the North and the South and between fast growing developing countries and least developed countries (LDCs) remain unsolved in the post-Kyoto era. Moreover, the lack of an enforcement mechanism made the fulfillment of the targets dubious. It is clear, from Table 4-2, that most major countries failed to reach their targets. In summary, the conclusion of the *Kyoto Protocol* was one contradictory giant and tiny step in tackling climate change. It has marked the progress that nations around the world can cooperate together to face a common problem. However, it has also exposed the difficulties of moving forward in global climate politics.

⁴⁵ Article 25 of the *Protocol* conditioned that it shall enter into force on which “not less than 55 parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I”, have ratified the *Protocol*.

Table 4-2 GHG Emissions of Major Countries (1990-2007)⁴⁶

	Annex I parties	Reduction Target (%) ⁴⁷	Actual Emission (%)
Parties to the Protocol	EU	-8	-4.3
	Germany	-21	-21.3
	UK	-12.5	-17.3
	Italy	-6.5	+7.1
	France	0	-5.3
	Spain	+15	+53.5
	Greece	+25	+24.9
	Portugal	+27	+38.1
	Russia	0	-33.9
	Japan	-6	+8.2
	Canada	-6	+26.2
	New Zealand	0	+22.1
	Australia	+8	+30.0
Non-Parties to the Protocol	US	-7	+16.8

Source: UNFCCC Secretariat

The preparation for the post-Kyoto negotiations started soon after the *Protocol* entered into force. A dual-track framework was introduced; one was the ad hoc group under the *Protocol* for negotiating the post-2012 targets and the other was the talks under the *Convention*, which tried to keep the US and Australia in the negotiations. The EU still played an aggressive role. However, the Umbrella Group, under US leadership, and the leading developing countries, especially China, have become more and more influential in post-Kyoto negotiations. A heavily compromised *Protocol*, as elaborated in note 47, has witnessed the influence, negative or not, of the US. Meanwhile, one of the reasons for this deadlock is the discontent of the US against the lack of (meaningful)

⁴⁶These are the data excluding the LULUCF (land use, land use change and forestry).

⁴⁷ These are the targets listed in the Protocol. However, after the US withdrew from the *Protocol*, the *Marrakesh Accord* in 2001 made large concessions to the Umbrella Group in order to keep the *Protocol* alive. Before the *Marrakesh Accord*, the overall reduction target of Annex I countries changed from 5.2% to 3.6% due to the changes of the base years for different countries. After the carbon sink was included in the *Marrakesh Accord*, the actual targets, including the US, went from a reduction of 5.2% to 1.7%. Taking both the carbon sink and changes of the base years into account, this would decrease from 5.2% to 0%. Moreover, the withdrawal of the US made the targets of a 5.2% reduction to 1.7% increase to the 1990 level (den Elzen and de Moor 2001).

participation from developing countries. As a result, a new triad of the EU, the US and China has gradually occupied the centre of post-Kyoto negotiations.

Although major states had expressed their willingness, the atmosphere had turned to pessimism before the opening of the Copenhagen Summit in December 2009. The EU came to the Conference with a 20% reduction target by 2020 of the 1990 level. It was the most ambitious target among industrialised parties,⁴⁸ though still below the ideal targets suggested by the IPCC (2007), which was a 25%-40% reduction by 2020. Many major developing countries had proposed ambitious targets as well.⁴⁹ Nevertheless, these targets were calculated either on the basis of business as usual (BAU) emissions or on energy or carbon intensity. In other words, there would only be 'relative' reductions, compared with the 'baseline' scenario, from these major developing countries.

The scale of the Copenhagen Summit had surpassed the one in Kyoto. Nevertheless, the negotiation was full of mistrust between the North and South.⁵⁰ Meanwhile, divergences among the developing world were also enlarged (Vidal 2009b), while the new BASIC group consisting of Brazil, South Africa, India and China, appeared as the leader of the G-77. The proposed fund of 100 billion US dollars per year for the developing countries and the installation of the MRV (Measurable, Reportable and Verifiable) for developing countries, especially China, emerged as the main dispute in the last few days, along with the mutual criticisms between China and the US. Disregarding the formal UN negotiation procedure, US President Obama convened an

⁴⁸ The EU promised to strengthen its target to 30% if other industrialised countries made similar progressive targets. US President Obama proposed a 17% reduction to the 2005 level by 2020, which equals a 4% reduction of the 1990 level. Japan proposed a 25% target of the 1990 level on the condition that the Copenhagen Summit could reach an international binding agreement, which was very difficult. Australia also made a conditional proposal of a 15% reduction of the 1990 level, if major developing countries could commit significant reductions. Russia proposed to cut 20%-25% of the 1990 level. However, the GHG emissions of Russia had fallen 34% since 1990, which meant Russia could increase its emissions even when adopting this target. In short, most proposals from industrialised countries were conditional and, thus, impractical.

⁴⁹ A 30% reduction from South Africa, Indonesia, and Brazil; 40-45% from China and 20-25% from India

⁵⁰ The leaked *Danish Text* had infuriated developing countries as this draft would limit the right of development in the South. The long-term 2050 target proposed by the Danish Text will cause the per-capita 2.67 tons of emissions in industrialised countries and 1.44 tonnes in poor countries (Vidal 2009a).

exclusive meeting among major countries on the last day and concluded the *Copenhagen Accord*. However, due to objections from Bolivia, Venezuela and Cuba, which were excluded from that secret meeting, the Summit could only 'take note' of the *Accord*.⁵¹ Without any specific binding target and measure to reduce GHG emissions, the *Copenhagen Accord* brought huge disappointment around the world (Vidal 2009c).

The establishment of the *Convention* and the conclusion of the *Protocol* brought confidence and hope that a different kind of global politics, based on international and transnational cooperation, is possible. However, the withdrawal of the US from the *Protocol* and the constant lack of participation from major developing countries have darkened the prospects. The huge gap between the expectations and outcomes of the Copenhagen Summit has demonstrated how complicated and tough global climate politics is and will be in the future. Around the world, national and local governments, international organisations, NGOs, research institutes, global media and business groups have all been involved in the negotiations with different preferences, interests and rationales.⁵²

4.2 Development of China's Foreign Politics

Before further discussion about China's environmental diplomacy and its strategies in global climate politics, it is crucial to review the development of China's foreign

⁵¹ The achievements of the *Accord* include: (1) an international consensus to limit the temperature rise to 2 degrees Celsius above the pre-industrialisation level, on the basis of 'equity and sustainable development'; (2) the recognition of the importance of the Reduction of Emissions from the Deforestation and Forest Degradation (REDD) mechanism; and (3) the commitment from the developed countries to provide new and 'additional' financial support for developing countries, 100 billion US dollars per year till 2020 and 30 billion US dollars in the period 2010-2012, in the context of 'meaningful mitigation actions and transparency on implementation'. Both developed and developing countries were requested to submit their reduction targets or mitigation actions to the UN by the end of January 2010.

⁵² Two years after the Copenhagen Summit, there has not been much progress in establishing the post-Kyoto framework. One of the achievements of the Durban Summit in 2011 is to extend the Protocol to another 5 to 8 years after 2012. The clear goal of reduction targets for different countries remain unclear.

politics in order to examine the core concerns underpinning China's grand strategy. Therefore, this section focuses on the primary principles of China's foreign politics in different stages since its foundation. After the establishment of the People's Republic in 1949, the Communist Party has ruled China for over sixty years. In the first thirty years, while Chairman Mao Zedong was in power,⁵³ the primary concern of China's diplomacy was to seek its own survival and development in a relatively hostile international environment during the cold war. The principle of 'Independent and Autonomous Diplomacy' was set up from the beginning of the People's Republic and this principle has continued to be one of the key concerns of China's foreign politics. Soon after the deterioration of its relationship with the Soviet Union in the 1950s,⁵⁴ China sought to expand its international influence through 'South-South Diplomacy'. Both the US and the Soviet Union had become China's targets of international struggle, with the former representing imperialism, the latter hegemonism. In 1953, the then Chinese Premier Zhou Enlai announced the 'Five Principles of Peaceful Co-existence' between China and India; which were: (1) mutual respect for each other's territory, integrity and sovereignty; (2) mutual non-aggression; (3) mutual non-interference; (4) equality and mutual benefit; and (5) peaceful co-existence. These principles were not only accepted by the then Indian Prime Minister Nehru but were also brought to the international Non-Alignment Movement. China's attendance, which was led by the then Premier Zhou, of the Bandung Asian-African Conference in 1955, had marked the beginning of China's

⁵³ It is a simplified expression that this thesis does not intend to discuss the domestic power struggles among Chinese leaders in this period. However, it is without doubt that Mao was the most powerful and dominant leader before his death in 1976.

⁵⁴ The Chinese Communist Party had gained a lot of military, technological and economic support from the Soviet Union during the Chinese Civil War and, thus, China had embraced a 'Lean to One Side' (to the Soviet Union) policy after 1949. However, China under Mao's leadership, started criticising the de-Stalinisation efforts by the then Soviet Union leader Khrushchev when he took power in 1954. Apart from the military and territorial conflicts between these two countries, the Soviet Union and China had many disputes over issues, such as Yugoslavia Revisionism, China's Great Leap Forward policy, the Cuban Missile Crisis, Vietnam's invasion of Cambodia and the Soviet Union's invasion of Afghanistan. The relations between these two countries did not improve until the early 1980s. The discussions on the causes and developments of the conflict between the Soviet Union can be found in Taubman (2003), Zubok (2007), and Li (2006).

participation and cooperation with the developing world. The Conference adopted the *Declaration on Promotion of World Peace and Cooperation* in which the five principles applied in the Sino-India relation had been included, and it emphasised that developing countries should decrease their economic dependence on the industrialised world through cooperation with developing countries. This conference also sought to pursue anti-colonialism, national independence, poverty alleviation and economic development. The Bandung Conference was a milestone for the international Non-Alignment Movement (NAM), which started from the Non-Aligned Movement Summit in 1961 in Belgrade. The NAM is a loose international organisation which has operated since then and it has tried to pursue a moderate stance beyond the confrontation between the US and the Soviet Union blocs during the Cold War. Although the influence of the NAM has declined since the end of the Cold War, it still holds regular meetings among its 115 member states every three years. Keeping its distance from the Western and the Eastern blocs, the NAM has created an international space for South-South cooperation.

China has never formally become a member of the NAM and the G-77. Nevertheless, China has kept a close relationship with the developing world since the mid 1950s. Apart from the 'Five Principles of the Peaceful Co-existence' which influenced the development of the NAM, Mao also proposed a theory of 'Three Worlds' in which the hegemonic US and the Soviet Union were the First World, developed countries were the Second World and developing countries in Asia, Africa and Latin America were the Third World. The 'Five Principles' has represented China's aspirations in pursuing territorial integrity, independent sovereignty and autonomy. This has been a deeply rooted goal in Chinese society since the late 19th century, when imperial China, the Qing Dynasty, faced invasions from the Western and Japanese Empires. This aspiration has been crystalised by the Five Principles and its spirit continues to be influential in

China's contemporary diplomacy. The anti-Imperialism and anti-Hegemonism struggles proposed by China had also become the discursive tools to pursue and consolidate territorial integrity and independent sovereignty. Based on the history of imperial invasion, pursuing modernisation and normalisation of the state with an integral territory has become the primary task of China's foreign politics. This trend has also created the space for China's cooperation with the developing world.

After Mao's death in 1976, the 'Revolutionary Diplomacy' pursued during the Cultural Revolution was abandoned (Tsai 2008).⁵⁵ As Deng Xiaoping gained power and started the economic reform in the late 1970s, China started readjusting itself to the international system. Communist China took over the seat in the UN from Nationalist China (Taiwan) in 1971.⁵⁶ The visit of the then US President Nixon to China in 1972 represented the beginning of normalisation between these two countries and finally brought about the establishment of a diplomatic relationship between China and the US in 1978. Just as his focus had been on economic reform, Deng's strategic concern for China's diplomacy placed the emphasis on economic cooperation in the international arena. His wisdom was to keep a low profile on China in order to pursue economic development and to reserve national capacities.⁵⁷ From Mao to Deng, independence and autonomy remained the primary goals of China's diplomacy. However, Deng managed to fulfill this goal not through ideological confrontation under Mao's era but by a more

⁵⁵ During the Cultural Revolution (1966-1976), the peaceful Five Principles were left aside so that Mao's revolutionary ideas could become dominant. The 'Revolutionary Diplomacy' in this period were aimed at enhancing the struggles with Imperialism, Revisionism and Reactionaries. Meanwhile, supporting revolutions around the world also entered into China's diplomatic agenda (Tsai 2008).

⁵⁶ China was the founding member of the UN and one of the permanent member states in the UN Security Council. After the civil war in 1949 between the Communist Party and the National Party (KMT), the national government was defeated and retreated to Taiwan, and mainland China was taken over by the Communist Party. The national government, run by the National Party in Taiwan, kept its seat in the UN through the support of the US. However, following the changes in the international power structure when the US started to build up a relationship with Communist China, the national government in Taiwan gradually lost its international support and its seat was taken over by the communist government from mainland China. The communist government has been widely recognised as the only legitimate government in China since then. In this thesis, 'China' refers to Communist China.

⁵⁷ The principle Deng proposed is '韬光養晦' (Tao Guang Yang Huei)', which means to conceal one's flame and to stay in an unapparent location.

complicated and practical operation in order to pursue China's national interests (Tsai 2008). In 1982, the then Chinese Premier Hu Yaobang claimed the concepts of 'Independent and Autonomous Diplomacy', which were (1) the anti-hegemonism principle that China will not align with power states or blocs; and (2) national interests were the primary concern in China's diplomacy (Tsai 2008). This revision of guidelines had lead China to normalise its relation with the Soviet Union in the 1980s. Meanwhile, China continued to stand with the Third World, the developing world. However, Deng's low-profile principles kept China from being the leader of the developing world and an alliance with other developing countries.

China faced severe international pressure after the 1989 Tiananmen accident. Nevertheless, the international isolation did not last very long and, by the early 1990s, China had re-established foreign relations with most countries. Meanwhile, with the continuing boom of its economy, survival from foreign threats was no longer the primary diplomatic concern. In the post-Cold War era, the anti-Hegemonism discourse was put to one side and the new task was now to establish an international environment in which 'common development' could be achieved. At the 16th Party Congress in 2002, the then Chinese President Jiang Zemin claimed that peace and development remained the themes of China's foreign policy. He also mentioned the new manifestations of Hegemonism and power politics and the widening of the North-South gap. However, "[a] new world war is unlikely in the foreseeable future", and thus "to preserve peace and promote development.....represents the common aspirations of all peoples" (Jiang 2002). China's goal is to pursue its own development and prosperity through independent and autonomous diplomacy in a 'multipolarised world', in which the divergences between different civilisations and social systems should be respected. The wide usage of the term 'common' in President Jiang's report represented the

transformation of China's attitude as it has become more confident and active when engaging in international affairs (Tsai 2008). This transformation has brought about the current theme of China's diplomacy: peaceful development.

The current Chinese President Hu Jintao and Premier Wen Jiabao have both claimed that China is on the track of a peaceful rise to fulfill its development; 'peace' and 'development' have remained two key concerns in China's diplomacy. As for the grand strategy, China's foreign politics' targets are separated into four categories: big powers, neighbouring countries, developing countries and multilateral diplomacy. When addressing Chinese ambassadors in 2009, President Hu elaborated in the overall arrangements of these four categories that China ought to: (1) maintain and manage relations with big international powers; (2) establish geopolitical and strategic relations with neighbouring countries; (3) consolidate a foundation with developing countries; and (4) positively develop multilateral relations (Chen 2009). In this speech, President Hu, for the first time, proposed the idea of 'area diplomacy' where non-traditional areas, such as a financial crisis, climate change and energy security, are taken into account. President Hu also encouraged Chinese ambassadors to strengthen China's discursive power through multilateral cooperation (Chen 2009).

Comparing the first thirty years and the subsequent thirty years of the People's Republic, China's diplomacy has become more flexible, practical and rational since Deng's open-door policy in the late 1970s. Ideological confrontation is replaced by multilateral cooperation and struggling for survival has been replaced by the pursuit of development (Tsai 2008). Nevertheless, few concerns remain central to China's grand strategy, which constitutes the hardcore of China's diplomacy. Starting from the 'five principles', the integrity of territory and the independence of sovereignty is the unchallengeable core of China's foreign politics and this leads to the principle of

independent and autonomous diplomacy. National interest has now appeared as the primary diplomatic concern. The anti-Imperialism and anti-Hegemonism legacy has driven China to the developing world, and cooperation with other developing countries was built on the basis of *non-interference*. Meanwhile, no matter what international status China has, the instruction from Deng to keep a low profile still matters in that China is not willing to become an international leader and to bear excessive international responsibilities. China seeks peace and development in the international arena only when the above principles are followed. China's climate diplomacy has, therefore, to be understood from this context as well. It is clear that through analysis in Chapter Three, the insistence to pursue and maintain the integrity of sovereignty has constituted to the dominant governmental rationalities of China's foreign politics. Meanwhile, the will to develop joins to form other pivotal rationalities underpinning China's self-identification in the international arena. In other words, China is eager to modernise, to prosper and to develop, but the path has to be under China's control. Non-interventionism is the principle China applies to other countries, at least rhetorically, and asks other countries to stick by this. This principle has demonstrated the crucial influence of the rationality of sovereignty. Meanwhile, this thesis argues that this principle also helps China to concentrate on its economic growth and prevent the chance for foreign powers to intervene in the authoritarian rule by the CPC government.

4.3 China's Responses to International Climate Change Politics

The last two sections have reviewed the developments in global climate politics and China's foreign politics. The reason for the reviews is to provide an international and domestic context for analysing China's foreign politics of climate change. However, just

as Hajer has claimed environmental politics is where ‘argumentative struggles’ happen and “actors not only try to make others see the problems according to their views but also seek to position other actors in a specific way’ (1995: 53), the textbook-like⁵⁸ description in Section 4.1 is merely the reflection of a certain perspective in which the storylines and discourses are developed within a concrete theoretical framework, the mainstream neo-realist and neo-liberal institutionalist approaches. Both approaches can be applied to explain certain events but this means they are both insufficient in grasping the dynamics of global climate politics. The pessimism since Copenhagen has strengthened the validity of the realist approach where states only take care of their own national interests. It does not matter if the target in the blame game is the US or China since they both represent the ideal type of realist narrative. Nevertheless, this universal and timeless assumption of the realist approach has failed to grasp the contexts and the dynamics of the formation of ‘national interests’. For realists, climate change is just another sub-field of international politics and this issue has no significance until it starts to threaten national security. The essence of international climate change politics, from a realist perspective, is how states pursue their survival and national interests and maximise their powers in the battles on ‘managing’ climate issues. Also from a realist perspective, the ‘failure’ of the Copenhagen Summit and the pessimism leading to Cancun demonstrated the validity of HST, which is that, without a hegemon willing to lead and make sacrifices, international cooperation is far from a reality. However, as this thesis has critically analysed, to explore the hegemony of global climate politics is more crucial than searching for a hegemon, which is difficult to identify due to the superficial understanding of power based on state-centric assumptions. As a result, a realist

⁵⁸This kind of description is widely accepted when people try to study the global politics of climate change. This style focuses on the interplays among states and state groups on a chronological basis. The criteria of the ‘failure’ and ‘success’ of global climate politics is when different states remain in conflict or reach a consensus for collective action. This state-centric understanding has become a dominant framework to direct people’s imagination about climate politics. In China, most scholars also develop their own arguments on this basis.

approach can merely provide a self-referential and retrospective understanding of global climate politics.

From the perspective of the neo-liberal institutionalist approach, although setbacks always exist, there have been huge achievements in global climate politics in the last two decades. Regimes and institutions at different levels have demonstrated the possibility of an international collective action and have facilitated further cooperation. Moving forward to the global governance approach, the emergence of a variety of global carbon markets has witnessed the lively engagements of non-state actors at different levels (Newell and Paterson 2010). However, as there is a limited validity to the realist approach, the liberalist approach has to face the same situation. Those states that disappointed the world in Copenhagen are those who brought prospects and hopes at Kyoto and Bali. What have international climate institutions and regimes really brought? Meanwhile, the same question remains: why does global governance on climate change have to be organised through certain measures, such as market mechanisms? The question of 'who governs' is directly linked to two other important concerns in global climate politics, which are 'who profits' and 'who suffers'. In other words, the neo-liberal institutionalist approach alone is not enough to provide a solution to the North-South confrontation based on 'equity' concern in global climate politics.

As a result, both neo-realist and neo-liberal institutionalists can partly explain China's approach in global climate politics, to varying degrees. Nevertheless, both mainstream approaches cannot grasp why China behaves in certain ways due to a lack of understanding of the historical contexts influencing the dynamics of different governmental rationalities. This section is going to examine the continuities and changes in China's attitudes toward different key issues in international climate change politics. The review is through the lens of the revised governmentality approach and the

aim is to explore the interactions among different governmental rationalities underlying these continuities and changes.

4.3.1 The Evolution of China's Foreign Politics of Climate Change

Starting with China's understanding of climate change, Zhuang *et al.* (2009) elaborates on the five stages: (1) at the beginning of the international negotiations, China focused on the environmental implication of climate change. China was cooperative since the international climate agreement was treated as an international environmental treaty. (2) The international society started to negotiate reduction obligations in the COP1 to the *Convention* in 1995 and concluded with the *Berlin Mandate*. China remained cautious about the proposals from developed countries in order to ensure that developing countries had no reduction commitments. It was the political implication which interested China at this moment. (3) After the conclusion of the *Kyoto Protocol*, flexible mechanisms were also introduced as policy tools to tackle climate change. China started to focus on the economic implications of climate change. From 1998, the National Plan Commission (the predecessor of the NDRC) took over the mantle of coordinating climate policies from the China Meteorological Administration. This event represented how China's attitude toward climate change had been transformed from a scientific dimension to economic and developmental dimensions. (4) The World Summit on Sustainable Development in 2002 brought the concept of 'sustainable development' to the arena of international climate politics. As a result, China also emphasised the importance of integrating relevant climate measures into China's strategy of sustainable development. From the Chinese perspective, the concept of sustainable development

should include (a) protecting the basic rights of people in developing countries; (b) matching the conditions and realities in developing countries; (c) enhancing the capability of tackling climate change in developing countries; and (d) reflecting the different capabilities and conditions in different countries (Zhuang *et al.* 2009: 266). This thesis argues that these four similar concepts indeed represent China's continuous insistence on the integrity of sovereignty and the assurance of different developmental paths and different social systems. (5) The latest stage of China's attitude transformation is to bring the geopolitical implication into account. Through the extensive participation of Chinese scientists in the fourth IPCC report, China has strengthened its influence in the post-Kyoto negotiations (Zhuang *et al.* 2009: 264-266).

This thesis contends that the above argument is not convincing enough because of its over-simplicity. The process of the transformation of China's attitudes is not a linear one and, also, those implications cannot be clearly separated at different stages. China had recognised the political implications of climate change as it had proposed the 'common but differentiated responsibilities' in 1991. The separation between the developed and developing world was the basic framework of China's climate diplomacy from the beginning of international negotiations. Moreover, China's insistence on the North-South framework does not come from moral or ideological concerns alone but also from its calculation. In other words, the cost-benefit concern of tackling climate change has always been one of the key factors influencing China's climate politics. The appeal of financial and technological transfers from the industrialised world also reflects this concern. The concept of sustainable development has a rather long history in international environmental/climate politics. Indeed, the contents of this concept, as discussed by Zhuang *et al.* (2009), have strong connections to the political concerns that maintaining the development in the South is a priority. In the end, Zhuang *et al.* (2009)

only take the Chinese participation in the IPCC to explain the ‘geopolitical’ implications of climate change, which is severely insufficient. Apparently, science and knowledge have a strong connection to power/politics, according to Foucauldian and constructivist approaches and the epistemic community. However, the simple fact Zhuang *et al.* (2009) describe is not sufficient to explain the complexities of the potential geopolitical conflicts/cooperation in global climate politics. The geopolitical concern should at least include energy security and competition in the global market for renewable energy. In summary, the argument from Zhuang *et al.* (2009), the leading researchers of China’s climate policy, oversimplify the dynamics of China’s climate politics in that they fail to explain why China cares about sustainable development and why China keeps standing with developing countries. Behind this argument is a linear and spontaneous order that China evolves its understanding and stance in international climate change politics. They are trapped in realist and liberal language, in which the reason of the state, and national interests, are treated as given and unchallenged.

In terms of the causes which influence China’s decision-making in international climate negotiations, both Zhang (2008) and Zhuang *et al.* (2009) take a rational choice approach to explain China’s choices. Three factors are taken into account which are: (1) the cost of mitigation: the higher the cost, the less China has to commit to reduction obligations. This concern helps to explain why China welcomes the introduction of the CDM since this mechanism is supposed to draw financial investment into China; (2) ecological fragility: the higher the fragility, the more cooperative China will be and this factor reflects their domestic concerns; and (3) equity concern: the fairer the international negotiations, the higher the possibility that China will bear their reduction obligations. China’s equity principle focuses on per capita emissions or, in other words, individual equity (Pan and Zheng 2009). This proposal aims at a fair allocation of

‘emission rights’ among all countries. This equity concern, along with the concept of historical responsibility and ‘common but differentiated responsibilities’, partly explains China’s tough stance in the international negotiations even though the international pressure on China is rising. Nevertheless, what Zhang (2008) and Zhuang *et al.* (2009) do not point out is the hidden meta-discourse and underlying governmental rationalities in which the integrity of sovereignty and the need to develop are overwhelmingly embraced.

From this leading research, which has represented official attitudes in various degrees, the primary task for China in international climate negotiations is to strive for ‘development rights’, which will help to achieve China’s industrialisation, modernisation and sustainable development without damaging China’s autonomy. China should insist on emphasising the historical responsibility of industrialised countries and should stress that economic development and poverty alleviation is the overwhelming task for developing countries. “To tackle climate change under the framework of sustainable development” is the primary principle for China to launch its international struggle and domestic sustainable development (Zhuang and Chen 2005: 280). In short, by reviewing the continuities and changes of China’s attitudes and stances, China’s strategic concerns are clearly revealed. To maintain the autonomous and independent position in international negotiations and to pursue developmental goals are the core concerns of China’s foreign politics of climate change. The continuities and changes to China’s attitudes can be roughly grasped from Table 4-3, which was mainly sorted out by Zhang (2008).⁵⁹ Detailed discussions are in the parts that follow.

⁵⁹Zhang (2008) only sorted out the data from 1991 to 2005. Part of year 2009 is added in this thesis. Meanwhile, considering that MRV is a newly emerging dispute, it is not included in this list, in this thesis. Detailed discussion is made in part (E) of this section.

Table 4-3 Continuities and Changes to China's Attitude in International Climate Negotiations

Issues	1991	1999	2001	2005	2009
Legally-binding commitment of emissions' reductions	No	No	No	No	No
Primary responsibility of industrialised countries	Uncertain	Yes	Yes	Yes	Yes
Financial and technological transfers	Yes	Yes	Yes	Yes	Yes
Supporting flexible mechanisms	No	Hesitant	Yes	Yes	Yes
Supporting other modes of international cooperation?	Uncertain	Uncertain	Uncertain	Yes ⁶⁰	Yes
Focus on per-capita emission?	Yes	Yes	Yes	Yes	Yes

Source: adapted from Zhang (2008: 84-85)

(A) Quantified Legally-Binding Target of Emissions Reductions

China keeps refusing to accept any legally-binding commitment of emissions reductions and insists that this principle should be applied to all developing countries. While climate change started to be 'politicised' from the late 1980s, China quickly learnt the importance of this issue. The Coordinate Group on Climate Change was established by the State Council in 1990, leading to the production of China's proposal in 1991. This proposal was brought to the UN Earth Summit in 1992. The key principles of this proposal were (1) common but differentiated responsibilities; (2) that international cooperation should be based on the equity principle and not endanger each country's sovereignty; (3) that proper economic development is the condition to tackle climate change; and (4) developed countries should provide necessary funding and technology to developing countries (Zhang 2008: 84). It is clear that China has set up the basic framework for climate negotiations that follow and those core principles in China's foreign politics, discussed in section two, have also occupied the centre of China's

⁶⁰Zhang mentions that Chinese delegates in the COP11 to the *Convention* and the COP1 to the *Protocol* have held an open attitude towards other types of international cooperation systems (2008: 85). However, what Chinese delegates proposed was just a different international institution that can incorporate more public and private sectors to tackle climate change together. This appeal can actually be fulfilled under existing institutions, such as the CDM. As a result, what Chinese delegates had proposed should not be interpreted as the intention to move beyond the *Convention* and the *Protocol*.

stance. In 1999, the then leader of the Chinese delegates in the COP5 to the *Convention*, the then deputy Minister Liu from NDRC, further reaffirmed that China would not accept any binding reduction obligation until it reached the medium-development stage. (Zhang 2008: 84). China has kept insisting on this principle throughout international climate negotiations in the last two decades. For China, the principle of ‘common but differentiated responsibilities’ accepted by the *Convention* is treated as unchallengeable so that this principle has brought historical responsibility into debate. As a result, the fact that China rejects the legally-binding commitment of emissions reduction should not lead to the conclusion that China is just a selfish obstructer in international climate negotiations. China has, following the regulations of the *Convention* and the *Protocol*, fulfilled its required obligation to publish its National Communiqué and GHGs list. Moreover, China has made contributions to mitigate climate change so that its energy intensity target has successfully reduced emissions.⁶¹ Other measures, such as energy saving, population control, afforestation, readjustment of industrial structures and the investment in renewable energy, have also contributed to the mitigation. More importantly, China’s non-commitment stance is actually responsible internationally and domestically. China cannot and should not bear unrealistic commitments which will bring excess burden to the Chinese people. China should grasp this opportunity to promote its own sustainable development (Zhuang and Chen 2005). After the US withdrew from the *Protocol* in 2001, it provided the chance for China to criticise the industrial countries for failing to fulfil their reduction commitments ahead of developing countries.

When the *Protocol* came into effect in 2005, the then leader of the Chinese delegates in the COP11 to the *Convention* and the COP1 to the *Protocol*, deputy Minister Wang

⁶¹The calculation of the reduction is based on the Business as Usual (BAU) scenario. According to Zhuang and Chen (2005: 279), the 60% reduction of energy consumption in per capita GDP from 1981 to 1999 equals the reduction of 550 million tonnes of carbon dioxide.

from NDRC, addressed China's positions: (1) to insist on the instruction of the Convention, especially the principle of 'common but differentiated responsibilities'; (2) to take action under the framework of sustainable development; (3) to emphasise the importance of technology to tackle climate change; (4) to assure the balance between adaptation and mitigation; and (5) developed countries should fulfil their commitments of technological and financial transfers to developing countries, and more international cooperative mechanisms which integrate public and private sectors, such as the CDM, was needed (Zhang 2008: 84). It is apparent that the difficult task to bring the *Protocol* into force and the growing international pressures on China has made it start considering the post-2012 framework. To reaffirm the principles from the *Convention*, a negotiation tool for China to claim its autonomy in climate talks was needed. Since the conclusion of the *Bali Roadmap* in 2007, the dual-track mechanism including all members of the *Convention* and the *Protocol* has gradually become the new framework for international climate negotiations. Under this dual-track mechanism, international pressures on big emitters including leading developing countries are growing. The Bali Roadmap requests developing countries to undertake Nationally Appropriate Mitigation Actions (NAMAs) and these NAMAs should be measurable, reportable and verifiable (MRV). In order to maintain its autonomy, China insists that the NAMAs in the developing countries are essentially different from the legally-binding commitment with quantified reduction targets of developed countries. (NDRC 2009). The main differences are (1) the NAMAs in different countries are autonomously initiated. (2) NAMAs include multiple policies and projects which is different from quantified reduction targets. (3) NAMAs are in line with national circumstances and sustainable development strategies of different developing countries. It is apparent that to maintain the autonomy of NAMAs in developing countries, this should fit with the principle

raised by the *Convention*. When President Hu addressed the UN before the Copenhagen Summit, China implied it was going to have a quantified target for the first time. It was merely the target to reduce carbon intensity based on the BAU: a 40%-45% reduction of carbon emission per capita GDP by 2020, compared to 2005 level. This has become another clear and unchallengeable principle for China that emphasises a voluntary action by a developing country. This target has been established and China has implemented it domestically making a stance to refuse the legally-binding commitment as in the Cancun Summit in 2010 and the Durban Summit in 2011 (China Climate Change Info-Net⁶²). China is willing to establish clear and quantified targets to curb the growth of carbon emissions, but the action must be voluntary and not linked to international binding commitments.

In summary, from 1990 to the present, China's attitude towards the legally-binding commitment to reduce GHGs emissions is clear and insistent. According to the historical responsibilities, industrialised countries have to fulfil their commitments first and to provide technological and financial transfers to developing countries. The spirit of the *Convention* which pursues 'common but different responsibilities' should be respected and consolidated. Developing countries, at this stage, merely have the responsibilities to undertake voluntary actions. Quantified targets may be set up in developing countries, but it has to be voluntary and has to match up the capacities and circumstances of different countries.

(B) Financial and Technological Transfer

China stands firmly with the G-77 on emphasising the historical responsibility causing threats of climate change. As a result, the North-South framework has been formed and

⁶²China Climate Change Info-Net (<http://www.ccchina.gov.cn/cn/index.asp>) is a website established by the NDRC. All important statements, laws, regulations, national communications and publications on climate change from China are sorted out and listed in this website.

different obligations are required to different groups. Industrialised countries not only have the obligation to reduce GHGs emissions ahead of developing countries, but are also requested to transfer relevant technologies of mitigation and necessary financial resource to the South. This principle was accepted by the *Convention* and it has always been insisted on by developing countries including China. In 1999, two years after the *Protocol* was concluded, the then deputy Minister Liu addressed the COP5 to the Convention and restated that developed countries should follow the regulation of the Convention to provide technological transfer and financial aid, in order to enhance China's capability to tackle climate change (Zhang 2008: 84). These are unavoidable obligations of developed countries, China insists.

This insistence lasted throughout international climate talks and in 2005, China made some supplements. In the COP11 to the *Convention* and the COP1 to the *Protocol*, the then deputy Minister Wang from NDRC emphasised the crucial roles of science and technology to tackle the challenge of climate change. Nevertheless, what was lacking was the mechanism to transfer and diffuse necessary technologies internationally. As a result, China made two suggestions: (1) to establish an effective mechanism of technology diffusion based on market laws. This mechanism should promote global sustainable development and lower the costs of applying these technologies in developing countries. (2) To develop mutually beneficial cooperation on technology in order to make a breakthrough of many crucial energy technologies. Regarding financial aspects, Wang kept emphasising the importance that developed countries provide financial aid to developing countries. However, China also proposed to establish an international cooperative mechanism in which public and private sectors participate together, such as the CDM (Zhang 2008: 84). It is clear that while insisting on the obligation of industrialised countries to transfer technology and financial support,

China's stance has become more flexible as it started considering and welcoming various types of international cooperation. Nevertheless, the core concerns remain the same as the North and the South stand in different structural positions with different responsibilities. The North cannot escape their obligations but the technological and financial transfers can be achieved through various ways. A more efficient way to diffuse technology and provide financial support to developing countries is also crucial in fulfilling sustainable development for developing countries. Since 2005, China has accepted the market mechanism, in which the government and enterprises work together, as an effective governmental tool to fulfil technology and financial transfer. This perspective was affirmed by President Hu (2009). Meanwhile, taking the divergences among developing countries into consideration, China has started exporting its technologies and financial supports to the LDCs and AOSIS through 'South-South cooperation', deputy Minister Xie from NDRC claimed at the Cancun Summit (Deng 2010).

(C) Reducing Emissions from Deforestation and Degradation

The Programme of Reducing Emissions from Deforestation and Degradation (REDD) is a measure to incorporate the protection of forests into the battle to tackle climate change. The idea is to provide financial compensation to those countries which reduce GHGs emissions from deforestation.⁶³ In the COP11 to the *Convention* in 2005, Papua New Guinea, with other countries from the Coalition of Rainforest Nations, proposed this compensation mechanism and this proposal was formally accepted in the *Bali Roadmap* in 2007. The aim was to create incentives for developing countries to prevent

⁶³The simple fact is that "tropical forests cover about 15% of the world's land surface and contain about 25% of the carbon in the terrestrial biosphere.....Roughly 13 million hectares.....are converted to other land uses each year. This loss accounts for around a fifth of global carbon emissions." (GCP 2009: 12). According to the Food and Agriculture Organization of the United States (FAO), the total number of forests in the world cover 31% of the world's land surface (FAO 2010).

deforestation and forest degradation. The measures to enhance the conservation and sustainability of the forest were accepted as the REDD plus (REDD+) at the Copenhagen Summit in 2009. The Cancun Summit in 2010 determined the guidelines and scales of the REDD+ and agreed to establish a Green Climate Fund which would also finance the REDD+. After years of negotiation, the regulation and methodology of the REDD has gradually been established at UN level. It can also work as part of the global carbon market so that the certified emissions reductions (CERs) from the REDD can be traded and auctioned, and used by countries and companies to fulfil their reduction targets under the cap-and-trade system (GCP 2009: 26). Nevertheless, how to allocate the allowances, to set up the baseline, to confirm the land rights and distribute the interest, to prevent damage to indigenous people and environment and to prevent carbon offsetting through the REDD remains controversial (FOEI 2008, 2010).

China is a country with rich forest resources and China's State Forestry Administration (SFA) estimates the forest ecosystems contribute 10 trillion RMB, or about one third of China's GDP (Watts 2010); nevertheless, since the main target of the REDD are countries with tropical forests, how China can benefit from the future REDD market is not clear yet. Basically, China supports the establishment of the REDD programme. In 2008, China proposed to the UNFCCC that it emphasised that role of conservation and sustainable management of forests and that the enhancement of forest carbon stocks in developing countries are as important as traditional REDD measures. In other words, China accepts the idea of REDD+. The REDD should promote sustainable development and poverty alleviation in developing countries. Meanwhile, China has restated the importance of adequate financial and technological support in order to implement the REDD (UNFCCC 2008: 37-38). Internationally, from Copenhagen to Durban, China's attitude toward the REDD+ remains the same as it

supports the establishment of the REDD+ but China keeps emphasising that having enough financial support is crucial to the implementation of the REDD+, either the financing is fund-based or market-based. China realises the importance of the carbon stock which is from LULUCF (Land Use, Land Use Change and Forestry) as another crucial tool to reduce GHGs emissions when direct reduction measures through industrial sectors face their limits. Meanwhile, China warns that the REDD+ measures should not be used by developed countries to offset their reduction targets (NDRC 2009b). In summary, although China has not become an active player in the REDD+ negotiations, it has poured its resources into enhancing its capacities in the fields of carbon stocks including the REDD+. The SFA has promulgated the guidelines to tackle climate change through forestry in the 12th FYP (2011). Forestry is treated as a crucial strategic sector to tackle climate change in both mitigation and adaptation levels. On the one hand, China keeps enlarging its carbon stock through massive planting and the director of SFA has promised to plant 26 billion more trees in the next ten years (Zhao 2012). On the other hand, the business of carbon stock is encouraged to attract financial investments through present CDM mechanisms (Zi and Wang 2011). China registered a CDM project on carbon sink and afforestation for the first time in 2010 (NDRC 2010). Meanwhile, domestic and voluntary trading is also encouraged and the first trading of forest carbon stock was dealt in Beijing in 2011. It is clear that China does not reject the market mechanism in the implementation of the REDD+.

(D) Carbon Capture and Sequestration

The technology of carbon capture and sequestration (CCS) is viewed as an effective way to tackle climate change without burdening too much cost on mitigation measures. It will capture the carbon dioxide before or after combustion of fossil fuels before the

carbon dioxide goes into the atmosphere, and then store the captured carbon dioxide deep underground. The CCS is not a prior topic in international climate negotiations at UN level, but China has developed many CCS schemes through bilateral efforts. The heavy reliance on coal in China's energy structure and the huge amount of carbon emissions due to the usage of coal has also brought the incentive for the Chinese government to approach CCS.⁶⁴ In 2005, the China-UK Near-Zero Emissions Coal (NZEC) agreement was accepted in order to deploy the CSS to demonstrate the near zero emissions coal technology in China (NZEC 2008). The NZEC initiative aims at constructing a demonstration plant with CSS technology in China by 2015. Meanwhile, China has also developed bilateral cooperation with the US on CCS technology. The American-based World Resource Institute (WRI) has built up the platform for the US-China collective actions to research and develop CCS technology, and its Chinese branch is working with the Tsinghua University on drafting the guidelines and regulations of the deployment of the CCS in China. China's biggest CCS experiment base in Wuhan city was built in 2011 as part of the scheme of China-US clean energy cooperation.

Since *China's National Climate Change Programme* (hereafter referred to as the *Programme*) was promulgated in 2007, China has determined to develop CCS technology. During the 11th FYP from 2006-2010, China constructed many demonstration plants with CCS technology. By the end of 2011, the Chinese power company which is also the biggest power company in the world, Huaneng, established the GreenGen plant whereby 90% of its emissions will be sequestered (Friedman 2011). It is clear that despite the cost of CCS remaining high, the uncertainties of safety in the capture, transportation and sequestration phases, the insufficiency of financial investment and the potential environmental damages, China is willing to develop the

⁶⁴From 2004 to 2011, 2.5 billion tonnes of CO₂ was emitted from the coal plants in China (Friedman 2011).

CSS technology through enhanced bilateral cooperation.

(E) MRV

From the *Convention* to the *Protocol*, there is no legally-binding obligation to developing countries to implement quantified reduction emissions targets. What developing countries need to do is to report and publish its National Communiqué and GHG list, and to raise public awareness. As discussed in part (A), the growing international pressures on big emitters, especially those leading developing countries including China, India and Brazil, brought the discussion of NAMAs and the MRV principle to the Bali Summit in 2007. The Roadmap requested the developing countries to take mitigation actions under the framework of sustainable development. Meanwhile, these actions needed to meet the principle of MRV. Initially China, with other developing countries, agreed to keep discussing MRV and they were aware that this principle would bring pressures to developing countries (Li 2008). MRV is thought to be applied to developed countries as well so that when heading to the Copenhagen Summit, China argued that the financial and technological measures from developed countries to help the NAMAs in developing countries should meet the principle of MRV. Nevertheless, a fierce debate on MRV erupted in the last few days of the Copenhagen Summit when the US agreed to provide a 30-billion-US -dollar ‘quick start’ aid to developing countries by 2012, it also strongly asked that China’s NAMAs should meet the principle of MRV internationally. China reacted fiercely to claim that it would not compete for financial aid and the financing should go to small island states first. Meanwhile, China confirmed its position that it opposed the MRV of domestic measures in developing countries (Hsu and Barnett 2009). Nevertheless, MRV became the principle issue in the last few days of negotiation due to the pressure from US

Senator Kerry. In the end, after US President Obama arrived and met with the Chinese Premier Wen on the topic of ‘transparency’, these two great powers seemed to find a temporary compromise. According to the Copenhagen Accord, the MRV principle is split into international and domestic levels. International MRV will be applied to those mitigation actions in developing countries which are supported by international mechanisms in terms of technology, finance and capacity building. Those unsupported and domestic measures will be subject to domestic MRV only and the result of the domestic MRV should be reported through national communications every two years with provisions for international consultations and analysis (ICA). It will operate with the condition that national sovereignty is respected (UNFCCC 2009).

From this review, it is clear that China is not entirely against the MRV principle. Instead, after accepting the Copenhagen Accord, China’s stance is clear that international MRV is applied to measures with foreign support. Although China still has to face pressure from the ICA, it is intolerable for China to accept international MRV on its domestic measures as it is treated as a challenge to the independence and autonomy of China’s sovereignty (Friedman 2009, Lee 2009).⁶⁵ No matter how much its statistics techniques need to be improved on to calculate the emissions (Breslin 2007, Neefus 2010), to entirely introduce MRV is treated as an offence to China’s sovereignty. In any case, no matter whether China expected it or not, MRV has become one of the core challenges for China in international climate negotiations since the Copenhagen Summit in 2009. China is fully aware of the pressure along with MRV and under such international pressure; China’s rhetoric becomes more flexible on this issue. The deputy Minister of the NDRC, Xie, expressed before the Cancun Summit that as long as sovereignty was not infringed, China had no problem with MRV and ICA (Meng 2010).

⁶⁵What is tricky is that China had claimed in the Copenhagen Summit that it did not expect any of the 100-billion US dollars fund to go to China (Friedman 2009, Wong 2009). This implies that China may not have the need to face any MRV requirement.

Nevertheless, China also mentioned that (international) MRV is different from ICA and it is arguable, that domestic measures should be subject to international MRV. In short, while MRV has unavoidably become the core dispute in international negotiations, China has drawn its baseline implying the priority of the integrity of sovereignty under the more flexible discourse.

(G)CDM

When the CDM appeared with JI and ETS in the *Protocol*, China was highly sceptical about these three flexible mechanisms. China criticised that it was unacceptable to use these flexible mechanisms to merely transfer responsibilities to other (developing) countries. Consequently, China strongly requested limiting the scales of the flexible mechanisms (Yan and Xiao 2010a: 83). China was also concerned about tackling climate change through measures of ‘low-hanging fruit’ as this would increase the future cost of mitigation in China. However, this hesitant stance has had a dramatic shift since the *Protocol* came into effect in 2005. China has become more confident and active in the CDM market and has occupied the majority of the market; detailed discussions will be made in the next chapter. From the hard-line and obstinate stance to the cooperative attitudes on flexible mechanisms, China has brought theoretical challenges to both neo-realist and neo-liberalist accounts. The change of the attitude not only implies the potential interests by adopting flexible mechanisms, but also represents the shift of governmental rationalities, this thesis argues. A detailed discussion of how China responds to the CDM in international and domestic levels is in the next chapter.

4.3.2 International Climate Cooperation

The continuities and changes of China's attitudes toward crucial issues in international climate change negotiations are discussed in the last part. These issues and relevant disputes mostly happen at UN level. Besides this level, there still are other international interactions among China and other parties, bilaterally or multilaterally. As a result, this part moves to discuss the bilateral and multilateral cooperation China engages with different parties. Leaving the controversial issues aside, China officially recognises the scientific evidence and the potential threats of climate change and is willing to develop cooperation at different levels in the international arena, as long as the cooperation does not impose or force China to take certain measures. This concern explains the conflicts and cooperation between China and the US at different levels. From the 1980s, China and the US had started to cooperate on climate science. In addition, these two countries also have many bilateral co-operations in various fields, including clean coal technology since 1994, energy efficiency and the technology of renewable energy since 1995, and clean air and clean energy since 1999. In 2002, just one year after the US withdrew from the *Protocol*, these two countries established a working group on climate change to cooperate on technologies. In 2006, the US-China Strategic and Economic Dialogue was established and acts as the highest dialogue mechanism between these two countries on regional and global security and economic issues. 'Energy and environment' is one of the working groups within this framework. These two countries work together, according to the agreements from the Dialogue, to promote bio-fuel and renewable energy in order to reduce carbon emissions. The Beijing Olympics in 2008 also provided a chance for China and the US to work on green building, smart transportation, energy efficiency, air quality, weather forecasting and clean coal

technology (Zhang 2007). In 2009, Chinese President Hu and US President Obama agreed to enhance mutual cooperation and to establish a US-China Clean Energy Research Center (CERC), which was officially launched in 2011. Besides the research on clean coal, clean vehicles and energy efficient buildings, the CERC has also built the biggest CCS base in China, as discussed earlier.⁶⁶ Communication and cooperation between the NGOs and local governments in each country operate vigorously as well.⁶⁷ Both countries also cooperate at a multilateral level, especially the Asia-Pacific Partnership on Clean Development and Climate (APP), which was founded in 2005. Member states of the APP are from both developed and developing worlds, including Australia, Canada, China, India, Japan, South Korea and the US. Collectively, these seven member states account for more than half of the world's economy, population and energy usage. The APP aims at introducing different initiatives to develop “less carbon intensive technologies instead of Kyoto’s ‘cap and trade’” (Kasa *et al.* 2008: 121). There have already been over 100 projects implemented in different member states since 2010. China actively participates in the APP, which is led by the US, as long as this multilateral mechanism does not challenge the framework of the *Convention* and the *Protocol*.

Apparently, a mode of multi-dimensional and multi-level cooperation has built up the different issues of climate science and climate policies between China and the US. Compared with the political disputes in the UN-led international negotiations, China and the US have more concrete achievements in the field of climate science and energy technology. Although the above co-operations go smoothly, core divergences remain unfixed. Apart from the ‘moral’ or ‘equity’ concerns, which lie in the disputes around ‘common but differentiated responsibilities’ and the North-South confrontation, the lack

⁶⁶Please see the CERC website: <http://www.us-china-cerc.org/>.

⁶⁷The Global Environmental Institute (GEI) has built up a strong relationship with the Ford Foundation in the US. They have also facilitated cooperation between local governments from both countries, in which the Guangdong Province and the California State are involved.

of mutual trust also makes it difficult to develop further cooperation between these two countries. While these two powers have not reached any consensus on the legally-binding commitment of emissions reductions and the application of the MRV principle, China has quickly become the biggest investor in clean and renewable energy and the biggest producer of wind turbines and solar panels in the world. It is apparent that another new battleground for competition has emerged between these two powers. However, the phenomenon of competition and disputes between China and the US at UN-level negotiations should not neglect the fact that the cooperation between these two countries in many aspects is growing rapidly.

Despite the criticisms against China from Germany and the UK immediately after the failure of the Copenhagen Conference (Miliband 2009, Spiegel Online 2009), the EU and China have maintained close relations through multi-level cooperation. Both China and the EU insist that climate negotiations should be held under the multilateral UN framework which follow the rules and values of the *Convention* and the *Protocol*. The principle of ‘common but differentiated responsibilities’ is supported by the EU and China. As a result, these two parties enhanced their bilateral cooperation so that, in 2005, the EU and China announced the *China-EU Joint Declaration on Climate Change*. They agreed to build up the China-EU partnership in the field of climate change in order to tackle severe challenges together. The concrete working programmes include clean coal, renewable energy, carbon finance, the technology of the CCS, climate science and the promotion of the CDM. After the ratification of the *Joint Declaration* by each party, bilateral cooperation at different levels and issues has taken place since then and a regular ministerial dialogue mechanism was also established in 2010. The bilateral cooperation has brought various achievements in China’s CDM market and CCS projects (Romano 2010). It is apparent that the EU is eager to export

its own modes and experiences to China, and has opened levels of cooperation with China, in order to draw China onto the path of a low carbon future, as set up by the EU.⁶⁸ China has learnt the concept of 'low carbon development' since 1999 through a cooperative project on renewable energy with the US Energy Foundation. Since the UK promulgated its energy white paper in 2003, China has learnt much more through bilateral cooperation (Zhuang 2007).⁶⁹

Apparently, the less aggressive approach of the EU, which does not challenge China's path to maintain the integrity of sovereignty and the goal of development while tackling climate change, is welcomed by China and, consequently, it is easier to keep China on track. However, the fierce reactions from Germany and the UK after the Copenhagen Summit have shown that this friendly relationship between China and the EU has its own limits. Can the EU keep accepting that China is exempt in having its own binding obligation, especially when China is only thought to care about its own interests? In other words, can the China-EU relation keep the same technological level without further political dialogue on the post-Kyoto regime and other sensitive issues? (Romano 2010) Moreover, even back to the technological level, the emergence of China in the sector of clean energy has posed threats to the global leading role of the EU (Freeman and Hoslag 2009). Can the EU keep using its soft power to influence China's decision in international climate negotiations? While the EU strongly opposed the proposals from the US to establish new international frameworks, including the 'long-term strategy' of climate change which is aimed at abandoning the existing UN framework, China did not react as fiercely as the EU did, although China's attitude is to maintain the *Convention* and *Protocol* frameworks. China has joined the APP in order to pursue

⁶⁸After the UK promulgated its energy white paper, *Our Energy Future - Creating a Low Carbon Economy*, in 2003 (Department of Trade and Industry, DTI), the concept of a 'low carbon economy' has become the buzzword around the world. It is not only a long-term grand energy strategy for the UK but also a pilot concept in global climate politics.

⁶⁹The UK is also eager to export this new concept and mode. In the British Embassy in China, a cooperation project focuses on promoting China's transition to a low carbon economy. <http://ukinchina.fco.gov.uk/en/about-us/working-with-china/climate-change/uk-china-cooperation/>

technological transfer. Moreover, China did welcome some of the proposals from the US about a 'long-term strategy' if these proposals could bring about economic development and technological transfer. This thesis argues that China's instrumental attitude is the key to grasping the interplay between China and the EU and that China is willing to maintain cooperation with the EU as long as this bilateral relationship does not post challenges to China's path of development and threaten its sovereignty.

Regarding China's interaction with other developing countries, it is clear that from academia to government, China keeps claiming the need to maintain the solidarity of the developing world. The acceptance of the principle of 'common but differentiated responsibilities' in the *Convention* demonstrated the victory of the G-77 plus China, and this principle is treated as the highest guideline for developing countries in international negotiations. However, the fact is that the developing world is too big a unit and it is difficult to claim common interests for every member. The divergences between China and other developing countries, especially the AOSIS and LDCs, since the Copenhagen Summit include: (1) the target of curbing climate change. China accepts the mainstream target of 2 degrees centigrade with 450 parts per million (ppm), but the AOSIS and LDCs have proposed a more radical target of 1.5 degrees centigrade with 350 ppm. (2) In order to fulfil the radical target, the AOSIS and LDCs have argued that emerging economies, which are the leading developing countries, should be integrated into the legally-binding framework. (3) The distribution of financial aids from developed countries (Yan and Xiao 2010b). It is true that industrialised countries never give up on disuniting the developing world, from the pre-Kyoto to the post-Copenhagen stages. Nevertheless, the fact is that, objectively and materially, it is essentially difficult to maintain the integrity of the developing world. Through Figure 4-3 and Figure 4-4, the huge gap between China and other developing countries are clearly represented so that

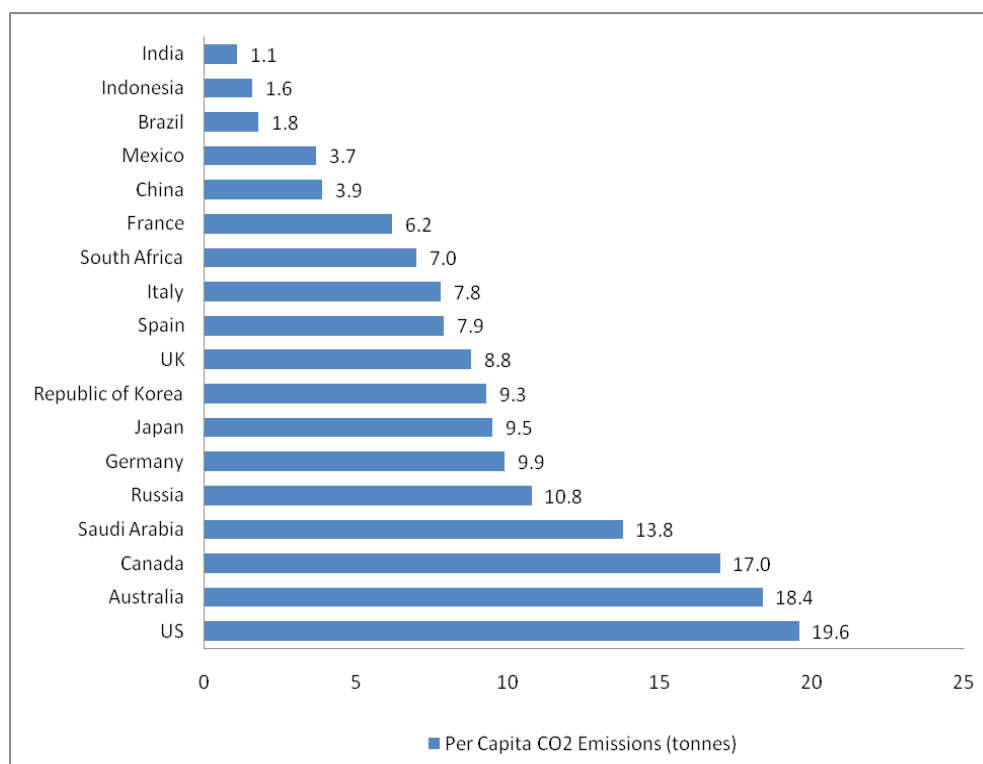
it becomes more difficult for all developing countries to take common positions in international climate change negotiations. The simple fact is that even by considering per capita emissions, China still has a higher number than other developing countries, not mentioning the total amount of GHG emissions. The South is a loose coalition and the gap will be widened. During the Copenhagen Conference, this trend was clear when most LDCs could only express their anger by leaving the conference hall, whereas China and other BASIC countries were invited to negotiate the *Copenhagen Accord*.

At the same time, while China has built up levels of cooperation in terms of climate science, technology cooperation, renewable energy, energy efficiency and carbon market and carbon finance with many industrialised countries, what have other developing countries gained, either from developed countries or from China? What is the benefit to consolidate the solidarity of the South if most interests and technologies go to China? After the Copenhagen Summit, China was aware of the influence of the growing divergences within the developing world. As a result, China has started to enhance its relationship with other developing countries through the framework of 'South-South Cooperation' and the cooperation is set to move beyond the discursive level (NDRC 2009a, 2010).⁷⁰ Besides cooperation in the fields of the energy sector and natural resources (AFP 2008, Mouawad 2010), China is willing to provide more substantial support to other developing countries. Deputy Minister Xie from the NDRC mentioned four dimensions of supports: (1) the infrastructure of adaptation in terms of the enhancement of meteorology and relevant warning technologies; (2) the promotion of adaptation technologies; (3) the promotion and application of technologies of energy

⁷⁰Two contributions from China should be noticed. The first one is the proposal of 'carbon emission rights' meaning that developing countries should have the right to develop, instead of the responsibility to mitigate. While emission rights are taken into account, China promotes the per-capita base, which is advantageous to the developing world (Pan and Zheng 2009). The other contribution is the separation between luxury carbon emissions and necessary emissions for human development. This separation is still based on the framework of 'emission rights', but it elaborates more about the 'contents of the emissions', which also brings the question of offset emissions from international trade and the globalisation of manufacture.

saving, energy efficiency and renewable energy and (4) the enhancement of the cooperation on the CDM in order to improve the acceptance rate of registered CDM projects from other developing countries. China will also train another 1,000 officials and technicians in the field of climate change for other developing countries in the next three years. Xie also addressed trained officials from the AOSIS and LDCs as China aided 98 climate change projects to other developing countries and trained more than 2,400 personnel for them, from 2005-2010 (Zhao and Huang 2011). This is the first time that China officially claimed it is going to export its CDM experiences to other developing countries. Although the concrete achievements remain unclear, it is apparent that China does not prefer a G-2 framework consisting of the US and China in international climate change politics. Rather, to maintain the North-South framework is still the priority even though the BASIC group has become more influential.

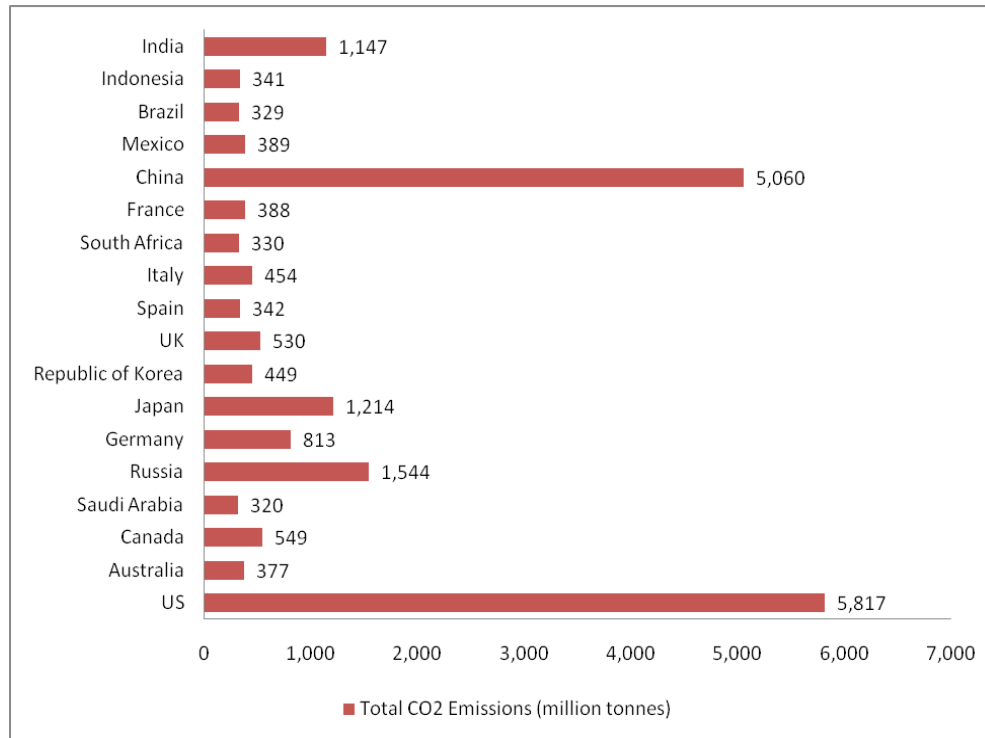
Figure 4-3 Per Capita CO₂ Emissions of Major Countries in 2005



Source: US Energy Information Administration

(Adapted from China-Profile <http://www.china-profile.com/index.htm>)

Figure 4-4 Total Amounts of CO₂ Emissions of Major Countries in 2005



Source: US Energy Information Administration

(Adapted from China-Profile <http://www.china-profile.com/index.htm>)

4.4 Conclusion

The analysis of four governmental rationalities underpinning China's politics and governance of climate change in the last chapter has provided an effective framework for grasping China's strategic concern, self-identification, discourse, baselines and mentalities in international climate change politics. These rationalities all have their

international derivations as analysed; but they have all been translated and transformed through China's needs at some particular historical moments. Different rationalities are imbedded in China's foreign politics in different ways and the influence has been expanded to the field of climate change. By examining China's continuities and changes toward crucial issues and China's interactions with different actors in international climate change politics, how these four rationalities direct and format the 'naturalness' and 'right disposition of things' along with the new 'arts of government' becomes clear. Zhang once described the prospect of China's stance on future negotiations as 'the soft issues become softer while the hard ones become harder' (2008: 93). Regarding hard-line principles, Zhang explained that it refers to China's insistence on the differentiated responsibilities between the developed and developing countries. Besides rejecting legally-binding commitments and emphasising the obligation of reducing emissions by developed countries ahead of developing countries, China's fierce response to the theme of 'China's environmental threat' also represents this hard-line stance (Zhang 2008: 94).⁷¹ Minister Ma of the NDRC strongly claimed that considering per capita and historical accumulated emissions, China should not be blamed for not committing legally-binding agreements. Meanwhile, for China and other developing countries, to develop along with carbon emissions is necessary. It is not fair to limit the industrialisation and modernisation of developing countries (Xinhua 2007).

Obviously, it is not difficult to sort out the core insistences and the hard-lines of China's climate diplomacy since these discourses can be easily found in mass media, text books on international climate politics, official documents and in many research papers. Nevertheless, this does not help us understand why and how certain issues are

⁷¹China's environmental threat is a perspective emphasising total GHG emissions, instead of per capita emissions or the historical accumulations of China. This theme argues that as China grows rapidly, the lack of China's measures on environmental protection has brought huge threats to the whole world. This theme appears in Chinese media from about 2006, and reaches its peak during the Copenhagen Summit in 2009.

tougher than other, this thesis contends. What defines which issues should be hard or soft? As discussed earlier, to keep emphasising the separation between the developed and developing world represents the perspective based on the historical responsibilities. While differentiated responsibilities are clearly distributed to different parties, to stay in the developing world is the most effective, if not the best, tactic to maintain the autonomy of a country in international climate change politics. All these hard-line insurances have represented China's aspirations to maintain its autonomy within it. However, why maintaining autonomy is so important needs to be understood genealogically in order to examine how China learnt, translated and consolidated the concepts, practices and knowledge of sovereignty. The specific historical path of Communist China concomitant with the state/society/party relationship has strengthened this mentality in which China and its sovereignty is always under threat from the outside world. This mentality can be found even in officials and leading Chinese researchers on climate policy, as discussed in the last chapter.

Nevertheless, this thesis points out that besides the rationality of sovereignty, the rationality of development has become another pivotal governmental rationality in China's foreign politics of climate change. Historically, these two rationalities have underpinned the desired goals from different parties in China in the last century, which are to fulfil modernisation, industrialisation and prosperity in an independent and autonomous state. The ideological foundation of Communist China has also enhanced the will and the need to develop; meanwhile, to maintain the integrity of sovereignty and the path of development have become two important foundations of the legitimacy of the CPC. Various contingencies have made these two rationalities overwhelming and dominant in China's politics and governance, and this phenomenon has brought a stubborn and selfish China into international climate change politics. After gaining more

scientific evidence about the potential threats of climate change to China's fragile ecological system; developing knowledge in which different scenarios about how China's economic growth might be influenced are analysed; and being aware of how these challenges might cause a legitimate crisis for the CPC, those hard-line issues indeed become harder while more flexibilities appear at the same time.

Nevertheless, the phenomenon that China expresses more flexibility in those 'soft' issues has to be grasped by examining the rationality of development, this thesis argues. As analysed in the last chapter, technicality is at the core of discourse on development. The technicality has defined and sought solutions through 'technical and anti-political measures' (Germond-Duret and Howe 2011). This explains why China has changed its attitude toward market mechanisms and other flexible designs. By accepting and engaging in those 'technical' issues actively not only provides the opportunity for China to fulfil the goals of development, but also creates a space for China to demonstrate its contributions in the apolitical spheres. As this thesis keeps emphasising, the 'politics via market' is just another type of politics, and this is more apparent in China's case. Meanwhile, considering the history about how Communist China introduced the market mechanism as a means to improving productivity in the past three decades, instrumentality has been imbedded into the rationality of market in China since the beginning of the economic reform. On the one hand, China still worries about the 'peaceful evolution' from the West through economic spheres and this has integrated the rationality of market into the rationality of sovereignty. On the other hand, the introduction of the market mechanism is treated as one of the crucial ways to fulfil China's development goal.

The rationality of environment stands in a similar position to the rationality of market in this case. To govern and to solve environmental problems/degradations through

managerialism based on technicality brings the potential of development. The environment itself is not a means of governance, but the historical contingencies under which the significance of the environment protection/management was introduced have turned the environment into manageable objects. This objectification makes the rationality of environment more easily incorporated into the other three governmental rationalities in different circumstances. Climate change is never merely an environmental problem for China and international climate politics is the battleground for China to strive for autonomy and development.

As a result, what underpins China's attitudes toward various issues and parties in international climate change politics becomes clear. As discussed earlier, the rejection of legally-binding commitment along with the insistence on 'common but differentiated responsibilities' is, and will be, the hard-line issue of China's foreign politics of climate change. Meanwhile, concomitant with these stances is the constant request of technological and financial transfers from the developed to the developing world. The MRV dispute, along with the proposed funding to the developing countries, is treated by China as an attack on these hard-line principles. Nevertheless, China has learnt lessons and the proposals of International Consultation and Analysis (ICA) and NAMAs can be treated as flexible reactions to these hard-core disputes. By claiming that the newly built fund should go to LDCs and AOSIS first, China not only repairs its relation with these countries but also clearly points out the applicability of the MRV principle. International MRV is acceptable only because it is related to international support. However, regarding domestic measures without international support, MRV is implemented into domestic agencies. What is more important is that sovereignty should be respected while bringing domestic MRV for ICA. The message from China is clear: China has its own way to tackle climate change in which economic development is pursued and

maintained, and this circumstance should be respected without interference. This stance has represented the influence of the rationalities of sovereignty and development; meanwhile, this stance can be guaranteed by the differentiated responsibilities in international climate politics. As a result, it is obvious that China will not make concessions on the issue of a legally-binding commitment and will keep emphasising the importance of maintaining a dual-track framework. Before reaching the medium development stage which is a clear national goal by China, the NAMAs is China's baseline in terms of obligations of emissions reductions, this thesis argues.

Nevertheless, although the proposal of the NAMAs represents China's insistence on autonomy and development, it has demonstrated China's flexibility as well. A similar attitude can be found in China's stance on financial and technological transfers. For China, it is an inescapable obligation for the developed world to transfer technology and financial support to the developing world, according to historical responsibility. However, as discussed in the last section, since 2005, China has become more flexible on this issue while insisting on the principle, China encourages and welcomes the financial and technological transfers to be fulfilled through market and other flexible mechanisms. In this case, the instrumentality of the market appears again so that it is clear for China what the core insistences are, and what applicable means are. To welcome market mechanisms and flexible cooperation does not post a substantial challenge to China's hard-line goals. Meanwhile, more flexibilities from China appear in the fields of CDM, CCS and REDD+ which are treated by China as necessary technologies and means to tackle climate change (NDRC 2010). The commonalities among these mechanisms are: (1) they can facilitate the emissions reductions; (2) they have potential profits and thus can stimulate China's low carbon and sustainable development to varying degrees; (3) they can bring positive effects to the environment;

and (4) the achievements from these mechanisms can demonstrate China's willingness and contribution to tackle climate change at international levels; meanwhile, they also represent the good governance within China. The technicality within these mechanisms makes them more acceptable to China and this has shown another side of China, in which a more cooperative and positive image is represented.

The growing flexibility of China in these non-hardcore issues explains China's interactions with two major parties in international climate change politics, the US and the EU. Although the controversies among these great powers in UN-led negotiations never ceases, the prospect of the post-Kyoto framework seems dim, the bilateral and multilateral cooperation between China and the major industrialised parties are growing rapidly, as discussed in the last section. Apparently, those 'technological' issues including clean energy, CCS, carbon stock, clean vehicles, energy efficiency, etc., are where prominent achievements have been made. The market mechanism is also welcomed as an efficient tool to attract technology and financing to China, and to fulfil various goals in China's efforts to tackle climate change. While China and the US both keep blaming each other for not making a sufficient contribution to reduce GHGs emissions, the broad cooperation between these two powers have been developed massively. The broadening and widening of mutual cooperation does not mean that the core insurances can be left aside. Meanwhile, to enhance the relation with AOSIS and LDCs through exporting mitigation and adaptation technologies and the CDM experiences demonstrates China's willingness to consolidate the solidarity of the developing world. To maintain the North-South framework supported by the principles raised by the Convention and Protocol is important to China's engagement in international climate change politics. As a result, although the BASIC group has been formed and China did not provide much substantial support to the AOSIS and LDCs in

terms of tackling climate change, the priority of China's strategic concern in further climate negotiations will still be to keep emphasising the differentiated responsibilities between the North and the South. This insistence is directly linked to the rationalities of sovereignty and development in China and thus has almost no space for compromise.

In its 2010 annual report on policies and actions tackling climate change, China restated its basic principles for international climate negotiations: (1) to abide by the framework of the *Convention* and the *Protocol* and to strictly follow the authorisation from the *Bali Roadmap*. From China's perspective, the spirit of the *Roadmap* is to maintain the framework of the *Convention* and the *Protocol* in the post-Kyoto (post-2012) period. (2) To insist on 'common but differentiated responsibilities' that developing countries need reasonable GHGs emissions in order to fulfil development. The obligations of developed countries to reduce emissions first and to transfer technologies and financial support to developing countries are restated. (3) To insist on the principle of sustainable development that the 'right of development' of developing countries should be realised. Economic development and poverty alleviation are important targets for developing countries in the battle to tackle climate change. (4) Mitigation and adaptation measures are equally important. Meanwhile, support for financing, technologies and capacity building from developed countries are crucial for developing countries to fulfil mitigation and adaptation (NDRC 2010). Clearly these principles have been restated by China again and again in the last two decades while more flexibility rapidly appears in different fields and issues. This thesis argues that the dynamics behind these insistences and compromises, continuities and changes and hard and soft stances can be grasped by the revised governmentality framework, as analysed through Chapter Three to this chapter. No matter whether taking an obstructive or cooperative stance, it seems that China is a perfect model of realist account.

Nevertheless, what this thesis tries to research is to grasp why China has become such a realist in international climate change politics, and what this realist country really cares about and pursues within it through genealogically examining the emergence and influence of four governmental rationalities in China's climate governance and politics. By doing so, this thesis argues that China will keep insisting on its autonomy to tackle climate change that more contributions from China's NAMAs can be expected. More bilateral and multilateral cooperation in various fields along with the widening of relevant market mechanisms can be expected as well, while the negotiations for the post-Kyoto framework might remain in deadlock._

5. The Clean Development Mechanism in China

The *Kyoto Protocol* entered into force in 2005 after Russia's ratification in 2004. In order to help facilitate the Annex I countries to fulfill their reduction targets, three flexible mechanisms were introduced, which are Joint Implementation (JI), Emissions Trading (ET) and the Clean Development Mechanism (CDM). The CDM is the only mechanism that incorporates developing countries into the framework of the *Protocol* and allows industrialised countries to invest in projects which reduce emissions in these developing countries. In the end, the reduction of GHGs through the CDM in developing countries will be calculated as the achievement of investing in Annex I countries. Through this project-based and market-based design, the North and the South have built up a connection in global climate politics.

Although opposing the introduction of a market mechanism during the Kyoto negotiations, China's attitude quickly changed after the *Protocol* entered into force. China has become the biggest and the most important player in the CDM market in terms of the amount of approved projects and the Certificated Emissions Reductions (CERs) it had gained. From 2005 to the beginning of 2010, China registered 749 projects with the CDM Executive Board (CDM EB), which accounts for 36.4% of the total 2,059 registered projects worldwide. It has also achieved 47.6% of the total CERs (181 million tonnes out of 370 million tonnes). There is no doubt that China has become the most active and aggressive player in the global CDM market. The CDM has become an indispensable part of China's climate politics and governance.

However, as discussed in the previous chapters, a naïve institutionalist understanding on global climate politics should be avoided in order to grasp the underpinning

structural forces and dynamics. From a Foucauldian perspective, the CDM cannot be just seen as a policy tool to reach certain climate targets. In addition to its market design in order to pursue the most efficient way to reduce emissions, the CDM is, indeed, also the realisation of certain governmental rationalities in global climate politics, which is a mixture of green governmentality and ecological modernisation. The establishment and the expansion of the global carbon market, in which the amount of carbon trading rose from 10.86 billion US dollars in 2005 to 126.35 billion US dollars in 2008 (World Bank 2009), has not only created an international regime to tackle climate change but also installed a certain ‘conduct of conduct’, a certain mentality and a certain ‘rationality of government’ about *how* to govern and *whom* to govern. As the only mechanism linking the industrialised and developing worlds, the practices of the CDM provide empirical grounds of how neo-liberal governmentality is produced and reproduced in the arena of global climate change politics. Paterson and Stripple argue that the CDM actually creates a mode to draw developing and developed countries together, in terms of the reterritorialised control of the South by the North (2007: 162). They cite Fogel that the emerging culture of carbon management is a contribution to a mechanistic ‘global gaze’, which moves to standardise and enroll both people and the natural world into largely inaccessible global institutions (2007: 163). It is, therefore, an imperial universal control of nature (Dalby 2002).

The above arguments have figured out the structure and governmental rationality underlying the global carbon market. However, these arguments imply a unilateral dominance by the industrialised countries that neglect the context, history and the (relative) autonomy of various types of ‘states’ in different areas of the world. In the last two chapters, it is clear that the rationality of market needs to be interpreted and transformed through certain circumstances and some historical contingencies in China’s

involvement in international climate politics. This chapter moves to the domestic level and keep asking the following questions: what is China's understanding of a market mechanism in global climate politics? How does China use the CDM as a governing tool to tackle climate change? How does China deal with the encounter of market rationality with the rationalities of sovereignty, development and environment? What changes has the CDM brought to China and what are the characteristics of China's CDM practice? This thesis argues that while tackling climate change at the domestic levels, the rationalities of sovereignty and development remain China's core concerns. Chapter Three has provided a detailed review about the uneven relation among four governmental rationalities. The instrumentality and technicality are imbedded in the rationality of market in China's case, due to its historical paths. Consequently, the introduction of the market mechanism serves to fulfil the desires from other dominant rationalities. The burgeoning of the carbon market in China cannot be treated as simply the expansion of green governmentality or the triumph of climate capitalism globally.

As a result, the aim of this chapter is to examine the governmental rationality of market and its interplay with other rationalities in China's politics and governance of climate change. Relevant knowledge and techniques based on the market rationality will be analysed. The first section reviews the developments of the CDM and of global carbon markets. The aim of this section is to explore the force of marketisation in global climate politics. The second section examines the general critiques of the CDM. The contradiction between market and development rationalities will be critically analysed. The third section discusses the development of the carbon market in China. Section three starts from the review of China's environmental governance. Then, this section moves on to analyse the regulations, characteristics, and problems of the CDM in China. The fourth section critically examines the practices of the CDM in China in order to

explore the interplay and conflicts among different governmental rationalities. The fruitful outcomes from the fieldwork help to clarify how the market rationality is confined and instrumentalised by the rationalities of sovereignty and development.

5.1 Clean Development Mechanism in the Tide of the Global Carbon Market

As reviewed in the last chapter, the *Kyoto Protocol* brought three flexible mechanisms to global climate politics. The importance of the CDM rests not only on the establishment of a carbon market but also on the international effort to draw the developing world into the framework of the *Protocol*. The detailed rules of the operation of the CDM were concluded in the *Marrakesh Accord* in 2001. The first CDM project was approved in 2005 and there were already over 2,000 registered projects by 2010. The operation of the CDM is supervised by the CDM Executive Board (CDM EB) and is under the guidance of the Conference of the Parties (COPs) to the *Convention*. The Designated Operational Entity (DOE) plays a crucial role in the process of registration and a DOE can investigate the project and audit the amount of emission reduction by the project. In the host country, the establishment of a Designated National Authority (DNA) is necessary and the DNA is the national authority that approves the investments in CDM projects.

The CDM is a project-based design within a multilateral framework between developed and developing countries. It is designed to be a win-win mechanism that, on the one hand, enables developed countries to gain emission credits more economically from developing countries. On the other hand, developing countries have the chance to

achieve financial profit and technology transfer from the developed countries through the CDM. Meanwhile, the CDM should bring sustainable development to the host developing countries. In short, the CDM is designed for both emission reductions and sustainable development. In Article 12.5 of the *Protocol*, it also mentions the operational criteria whereby the emission reductions through the CDM should be via voluntary participation with real, measurable and long-term benefits and additionality (UNFCCC 1997). Meanwhile, in practice, the design of the CDM projects should follow these two guidelines:

- (A) Baselines: the CDM is a project-based design and this principle is a way to decide how many credits each project will earn in terms of its emission reductions relative to a 'baseline'. In other words, a baseline is the business-as-usual scenario without the CDM project and, undoubtedly, although many methodology experts were involved in calculating the baseline, it is always a hypothesis.
- (B) Additionality: a CDM project could only gain credits if the emission reductions would not have happened without the investment and implementation of this project. The CDM activity should be *additional*. Again, the definition of additionality also draws methodological concerns.

As mentioned at the beginning of this chapter, there have already been over 2,000 registered CDM projects since 2005. According to the *CDM Pipeline Overview* (UNEP-RISOE 2010), these projects are unevenly distributed among regions and countries with projects mainly concentrated in Asia and Latin America, which host over 90% of the CDM portfolio. African and Middle Eastern countries are much less competitive in the CDM market (Zhuang *et al.* 2011). This phenomenon also demonstrates the divergence of the developing world.

Briefly speaking, like the other two flexible designs, JI and ET, the materialisation of the CDM depends on the formation of a carbon market in which the least costly way to fulfill the goals of emission reductions are taken into consideration. Meanwhile, the ‘sustainable development’ principle is also emphasised in order to attract support from developing countries. As Chapter Four has reviewed, the *Protocol* represents a political compromise by countries with different histories, interests, industrial structures and capabilities. How market efficiency, development expectations, environmental sustainability and the mission to tackle climate change can possibly coexist has remained the core concern of the CDM from the very beginning.

At the same time, it is important to bear in mind that the CDM is not the only type of carbon market. Instead, its realisation has witnessed the expansion of global carbon trading or carbon transaction. There exist two types of carbon trading. The first one is based on carbon allowances or permits. The allowances are determined and created by a government in order for transactions in a cap-and-trade system. Both the *Protocol* and the EU have established their allowances.⁷² Another type of carbon trading is project-based where the buyer can earn carbon credits through the CDM and JI.⁷³ Besides these two carbon markets, there also exist voluntary carbon transactions in terms of carbon trade and offset around the world. These different carbon markets exist independently but they are also connected by the fact that different carbon credits can be used and traded in different markets. Although the carbon market is in its infancy, due to the fact that it did not appear until the 1990s after the *Convention* was concluded, it has grown rapidly. In 2009, the global carbon market grew to 144 billion US dollars, which was a 6% growth from 2008 despite the global financial crisis (World Bank 2010). The EU Emissions Trading Scheme (EU ETS), based on the cap-and-trade system, still operated

⁷²The *Protocol* has the assigned Amount Units (AAUs) and the EU has the European Union Allowances (EUAs) for the distribution of emission permits among members.

⁷³CERs are the carbon credits created in the CDM and Emission Reduction Units (ERUs) in the JI.

as the ‘engine’ of the global carbon market. According to the World Bank (2010), the total value of the EU ETS reached 119 billion US dollars in 2009. Compared with the cap-and-trade market, the scale of the project-based CDM is very small, with only 2.7 billion US dollars after the 59% decline in 2009. However, it also implies the huge potential of growth. Moreover, the political aspect of the CDM should not be neglected as it remains the framework to integrate developing countries into global carbon governance.

Besides the EU ETS, there also exist other carbon trading systems around the world, including the UK ETS from 2002, the New Zealand Emission Trading Scheme from 2007, the Keidanren Voluntary Action Plan in Japan from 1996, and domestic carbon trading in Norway, Switzerland, Australia, Canada and the US. Alongside the growth of these carbon markets, the Chicago Climate Exchange (CCX) has played a crucial role in promoting the commodification of GHGs. In the US, the CCX has developed a voluntary cap-and-trade carbon market.⁷⁴ Meanwhile, the CCX has also facilitated establishing the Europe Climate Exchange (ECX), the Montreal Climate Exchange (MCX) and the Tianjin Climate Exchange (TCX). It is obvious that, although the US has withdrawn from the *Protocol* and it has made slow progress in its climate legislation on carbon trading, it has successfully promoted the market mechanism based on neo-liberal governmentality in global climate change politics.⁷⁵

The burgeoning of carbon markets around the world has raised academic interest. Although many researchers have discussed the emergence of the global carbon market and relevant financial initiatives (Stowell 2005, Labatt and White 2007, Stewart *et al.*

⁷⁴In 2010, the CCX was bought out by the InterContinental Exchange (ICE) which also bought out the ECX and Chicago Climate Futures Exchange (CCFE). Due to the laggard of the legislation on a national cap-and-trade system in the US, the CCX has ended its business of cap-and-trade at the end of 2010 and moves to the business of carbon offsetting.

⁷⁵The sluggish progress of the legislation of the Senator did not stop the local initiatives. California passed a legislation on carbon trading in 2010. California will cooperate with three Canadian Provinces: British Columbia, Quebec and Ontario through the Western Climate Initiative (WCI) to launch a cap-and-trade carbon market from 2012..

2009) and modes of CDM governances (Schroeder 2009, Newell 2009, Friberg 2009), Newell and Paterson (2010) firstly refer to these phenomena as ‘climate capitalism’. By examining different forms and agents of the carbon market and carbon finance, they claim that climate capitalism has emerged to “turn carbon into a commodity that can be traded” (Newell and Paterson 2010: 34). They clearly expose the ways the world tackles climate change through carbon trading, framed within ‘free-market capitalism’ (Newell and Paterson 2010: 9), which was strengthened and prevailed by neo-liberal practices across the Atlantic. The development of a capitalist economy in the last two centuries is deeply dependent on the usage of fossil fuels and has become a worldwide condition. As a result, it is unrealistic to radically request the world to abstain from this growth model. A new mode of ‘decarbonised economy’ is needed and a carbon market has emerged from this context as a new way to trade carbon and make a profit. Starting from the flexible mechanisms in the *Protocol*, the global carbon market has gradually turned different units of carbon credits into concrete commodities. Ideally, and more efficiently, the carbon markets will not only facilitate states to fulfill their reduction targets but also create incentives to attract investors into the industries of renewable energy, energy efficiency, land use, afforestation and infrastructure improvements.

Regarding the equity target, which occupies the centre of North-South confrontation in global climate politics, Newell and Paterson argue that the ‘equity’ concern was eliminated once emissions trading was integrated into the climate negotiations (2010: 26). ‘Efficiency’, a value highly praised and endorsed by neo-liberalism since the 1980s, has replaced the ‘equity’ concern rooted in the Earth Summit in 1972. Newell and Paterson also point out that, due to this obsession with ‘efficiency’ and ‘market’, emissions trading has become more preferable than another financial tool, the carbon tax, in international negotiations (2010: 26). Due to the influences from the major

polluting companies, the US constantly supports the flexible market mechanisms and neo-liberal ideology. As a result, cost-benefit and efficiency concerns were spread around the world, helping to make the carbon market and carbon trading a popular solution in global climate politics. In summary, although the international negotiations on the post-Kyoto framework have not made much progress, the burgeoning of various carbon markets around the world has represented a different way to govern climate change. Many developing countries which claim the importance in 'equity' in international negotiations have participated in the establishment and expansion of carbon markets. This thesis argues that this trend of 'marketisation of climate governance' fits with the argument of 'politics via market' in which the neo-liberal governmentality operates in an apolitical way (Lipshutz with Rowe 2005). Nevertheless, this thesis also keeps emphasising that besides the expansion of market rationality, there also exist different governmental rationalities driving the politics and governance of climate change to different ways at both international and domestic levels. The emergence of the carbon market and the introduction of the CDM in China have really brought the market rationality to China, this thesis agrees; nevertheless, this is just the beginning of the encounters and competition among different governmental rationalities in China's climate governance.

5.2 CDM in Question: Market V.S. Sustainable Development

After three flexible mechanisms were introduced to international climate change politics by the *Protocol*, lots of research has undertaken critical reflections on these market mechanisms. During the Kyoto negotiations in 1997, the Brazilian delegation proposed

a 'Clean Development Fund' that would collect fines from industrialised countries who failed to reach their reduction commitments and the fund would then be distributed to poor countries for clean energy projects. The US strongly objected to this proposal and proposed a 'flexible mechanism' instead, which eventually evolved into carbon trading schemes. Therefore, the CDM is a design with various, if not conflicting, purposes that expects to fulfill sustainable development, international cooperation and emissions reductions through market mechanism. As a result, it is unavoidable that the CDM will bring criticisms and concerns from different perspectives.

From the business and commercial perspective, the main concerns are the financial risks (Streck 2004), informational uncertainties (Fischer 2005), and uncertainties about the value of CERs and the role of the CDM after 2012. In other words, since the CDM was established in order to fulfill the reduction obligations in the commitment period, 2008-2012, the prospects of this market will rely on the outcomes of international climate negotiations. Meanwhile, the sceptics of the carbon market, who regard development rights and equity as primary concerns, criticise it as 'carbon colonialism' (Bachram 2004, Lohmann 2006). Essentially, the 'destructive consumption ethic' causing climate change is not questioned and challenged and the responsibility to reduce emissions is moved to the people in the South through carbon offsetting measures including the CDM (Bachram 2004, Böhm and Dabhi 2009). From this perspective, the concerns of 'equity', 'environmental and climate justice' and 'sustainable development' for the host country and communities should not be sacrificed as the carbon market is adopted in global climate governance.

Meanwhile, the role of the World Bank is also questioned since it is the major financial facilitator in the global carbon market. The World Bank's target for the carbon finance programme is to bring about "a global carbon market that supports sustainable

development, reduces transaction costs and reaches and benefits the poorest communities of the developing world” (World Bank Group 2007). Therefore, the World Bank has established three funds, with an estimated total value of 352 million US dollars, to tackle climate change through investment in the carbon market. These three funds are the Prototype Carbon Fund, the Community Development Carbon Fund and the Bio Carbon Fund. However, a report released by the World Wildlife Fund (WWF) found that many CDM projects invested by the World Bank completely fail to promote sustainable development. The additionality principle was neglected as 20% of the projects paid for through the CDM, and the emission reductions they generated, would have happened anyway without the additional financing (Schneider 2007). Redman thus called the World Bank a ‘Climate Profiteer’ (2008). She criticises that while the World Bank sees the CDM as a way to get the cheapest emission reductions, the dirtiest industries in the North see it as the chance to ‘outsource’ their reductions’ commitments. Only 4% out of the World Bank’s entire carbon finance portfolio come from the renewable energy sectors and the HFC destruction projects account for 82% (Redman 2008: 24, 31). Within the World Bank’s financed carbon projects, about 1 billion US dollars are invested into industrial, chemical, coal mine, landfill, gas, iron and steel factory projects, which are polluting, energy-intensive industries. The reason why these projects are preferred is because they are able to generate large, cheap and quick reductions of GHGs with a relatively low financial risk in a short time (Redman 2008: 29). As a result, for those CDM projects related to renewable energies, the competition is fierce and it is quite hard to survive in the market (Lohmann 2006). In the end, the dirty industries dominate the CDM market and lead to little benefit in sustainable development and emissions’ reductions.

The reason why the large number of HFC projects are severely criticised is that CDM

projects can be categorised into two main categories: one is to reduce emissions directly, the other one is to implement through other indirect measures. The direct projects focus on the reductions of GHGs, CH₄, HFCs, PFCs, SF₆ and N₂O. In the main, these gases are emitted during industrial processes. On the contrary, CO₂ is the target of the indirect CDM projects, which aim to decrease or replace the usage of fuel-coal energy or capture CO₂ in the air. The first category can be also treated as non-CO₂ projects and the GHGs in this category have higher global warming potentials. Compared with the CO₂ projects, the non-CO₂ projects rarely bring about the fundamental reform of the existing industrial structures which cause climate change. By February 2009, HFC-23 project represented 4% of the total registered projects but it gained 76% of total CERs (Zhuang *et al.* 2011).

From the research of International Rivers, an environmental NGO focusing on hydro power projects in terms of the CDM, the market mechanism provides a cheap solution for governments and companies in the North, who are failing to make real emission reductions, by buying carbon credits from developing countries. It is a 'lose-lose' design that while industrialised countries fail to reduce emissions, the local governments and communities in the host countries do not gain real benefits but there are negative impacts on the society and the environment from those profit-oriented CDM projects (International Rivers 2008b). The two principles of CDM methodology, the baseline and additionality, are difficult to abide by as about three quarters of the projects were not really 'additional' (International Rivers 2008c).

It is clear that both the praise and the criticism of the CDM come from its market-based design. According to CDM Watch, an international NGO aimed at monitoring CDM implementation, most industrialised countries and companies merely treat the CDM as a design to reduce the costs of their reduction commitments. What they search

for are those projects with large volumes of cheap carbon credits. The most popular projects are those that capture or destroy gases with high global warming potential, like CH₄, N₂O and HFC, in existing facilities (Pearson 2004). Indeed, these projects cannot bring substantial emissions reductions. Meanwhile, the goals of bringing about sustainable development benefits and improving the energy structure and energy usage are neglected (Pearson 2004). Through his survey, Shapiro (2010) also points out how the CDM investment in China has encouraged the growing production of a harmful refrigerant, which was banned by the *Montreal Protocol*.

The CDM is a market design in which the participating industrialised countries and companies treat carbon emissions/reduction as a tradable commodity. After all, it is not a development fund, which the Brazilian delegates proposed in the Kyoto negotiations in 1997, nor is it a programme aimed at promoting renewable energy and the reform of the energy structure. It is clear that the aim of the CDM is to generate tradable carbon credits with the lowest cost in a short time. In other words, the CDM is operating well as a market mechanism, which is to attract investment to those projects that have the maximum volume of carbon credits and the minimum cost. Moreover, the project-based structure makes the CDM almost impossible to be applied to a broader sector. It is also difficult for a host country to deploy a national plan on the reform of the energy structure through the CDM. The dominance of large non-CO₂ projects in the CDM market is inevitable because these projects could provide a relatively cheap and quick way to produce huge amounts of carbon credits. In contrast, renewable energy projects and energy efficiency with low profitability are not favoured by the CDM investors.

In summary, the controversies of the implementation of the CDM come from the very beginning of its formation in that it tried to put too many, sometimes conflicting, targets into one basket. The CDM sceptics thus question the possibility of reconciling market

efficiency with sustainable development. This dilemma also brings challenges to developing countries while they try to fulfill their goals of (sustainable) development through the introduction of the CDM. Even if the concern of sustainable development was left aside, the CDM still faces a fundamental question about its additionality methodology, which has attracted criticisms on the real reductions the CDM has brought.

5.3 The Carbon Market in China

Before discussing the development of the CDM in China, this section starts from the review of the burgeoning environmental governance in China. In Chapter Three, the governmental rationality of the environment in China, which focuses on the environment as the new object of governance and management, is reviewed. The first part of this section moves on to examine how the concepts of the environment, environmental protection and sustainable development were learnt, interpreted, accepted and integrated into China's political agenda. The rest of this section moves to review the development of China's domestic climate governance, the introduction and regulation of the CDM in China and 'Chinese characteristics' of the CDM practices.

5.3.1 Governing the Environment in China

After its tremendous economic growth in the last three decades, China has started to face the emerging environmental degradations which will challenge its social stability,

economic achievements, and public health. In China, there is a serious water problem including pollution, distribution and flooding. Air pollution is so severe that seven out of ten of the most polluted cities in the world are in China. The soil, especially agricultural land, is suffering from huge erosion. In addition, there is a strong demand for energy, from oil to coal, which produces more carbon dioxide than methane and oil. Furthermore, exacerbated by the increases in population, the problems of housing and food supplies, urban pollution, public health and transportation have also become challenges for the Chinese government and society (Cann, *et al.* 2005: 5-11). These are not just domestic issues that China has to tackle alone. One feature of these environmental problems is that it is likely to have severe international and trans-boundary consequences. The dust storms that blow across the national borders in East Asia (Ferris and Zhang 2005: 68) and the air pollution that crosses Guangdong province and Hong Kong due to the economic development of the Pearl River Delta (Hopkinson and Stern 2003) demonstrate the transnational influences of China's environmental degradations.

Although many government agencies were involved in environmental issues (the Ministry of Agriculture, Ministry of Science and Technology, Ministry of Land and Resources, National Forestry Agency and the NDRC) it was the State Environment Protection Administration (SEPA) that was in charge of the national environmental protection standards, regulations and laws. In 1998, the SEPA was elevated to ministerial status and then promoted to the Ministry of Environmental Protection (MOEP) in 2008. Nevertheless, the MOEP still shares the responsibilities of environmental protection and relevant issues with the other central governmental agencies mentioned above. Currently, there are now over 16,000 local environmental protection bureaus (EPBs) in the environmental protection system (Zusman and Turner

2005). Returning to the central government, the State Council, in which the bureaucratic conflicts are reconciled, sits at the top of the government. The Environmental Protection Commission was formed in 1993 as the advisory, instead of administrative, agency to the State Council. In 2002, the NDRC was established to merge the functions of the former State Development Planning Commission and the State Economic Trade Commission (Zusman and Turner 2005: 123). One of the NDRC's tasks is to establish a sustainable development strategy and the adaptation plan to climate change. The MOEP and EPBs were guided by the strategy proposed by the NDRC in pursuit of environmental and developmental goals. Local governments, which include the provinces, the four special municipalities and the autonomous regions, have the authority for law-making and have their own EPBs but the central government still has the most power in environmental affairs. It is clear that the environmental governance never concerns environmental issues as a separate issue in China; instead, it has to be integrated into the overall development strategy.

Besides building up and integrating environmental bureaucracies, China has also established its own environmental strategy based on 'sustainable development'. After this concept was confirmed and *Agenda 21* was concluded in 1992 at the Earth Summit in Rio, China adopted sustainable development as its main environmental discourse and built up relevant strategies. In 1994, the State Council promulgated *China's Agenda 21: White Paper on China's Population, Environment, and Development in the 21st Century*. This agenda elaborated on China's overall strategy, measures and programme of action for sustainable development. In 2003, the *Program of Action for Sustainable Development in China in the Early 21st Century* was promulgated by the NDRC and specified the objectives, principles, measures, and priority areas for China's sustainable development. The CPC Central Committee also announced China's *Tenth Five-Year*

Plan (FYP) 2001-2005 for National Economic and Social Development, in which the sustainable development principle was also emphasised (China Development Gateway 2001). The local governments were encouraged to pursue the sustainable development principle while executing the FYP. In *The Outline of the Eleventh Five-Year Plan*, one of the targets is to build a resource-conserving and environment-friendly society by adjusting industry structure and enhancing clean and sustainable development (NDRC 2006). In the 11th FYP, two specific targets were made, which were to reduce the energy consumption of per unit GDP by 20% and to reduce pollution emissions by 10% (NDRC 2006).⁷⁶ Each FYP is ratified by the National People's Congress (NPC), the highest legislative organisation in China, and will be the principal guideline for national policy in China. The State Council also promulgated the white papers of *Environmental Protection in China* (1996) and *Environmental Protection in China: 1996-2005* (2006) to specify China's environmental concerns. Briefly speaking, as a country with high-speed economic growth, China suffers from many emerging environmental degradations and related social problems, so much so that China has to seriously tackle these environmental and relevant social problems. From the reform of environmental bureaucracies to the release of policy guidelines, the environmental issue has already been accepted on the political agenda and the environmental governance system has also been established and developed gradually (Carter and Mol 2006). However, the rationality of the environment has constituted the backbone of China's environmental governance and needs to be contextually examined in order to explore the influences and dynamics of different governmental rationalities.

⁷⁶Regarding tackling climate change, the target of the 12th FYP is the 17% reduction of carbon intensity and 16% reduction of energy intensity by 2015 comparing to 2010 level (State Council 2011).

5.3.2 Facing the Threats of Climate Change and the Introduction of the CDM

China started to recognise the influences and potential threats of climate change in the 1990s. In 1990, the National Climate Change Coordination Group was established by the State Council to coordinate and integrate climate change policies. In 1998, during the period of governmental reform, this group was reorganised and renamed as the National Coordination Committee on Climate Change (NCCCC) and it cooperated with the NDRC to address climate change policy. The NCCCC was transformed into the National Leading Group on Climate Change (NLGCC) in 2007. This group is led by the Premier and consists of eighteen ministers. In 2002, China started proposing the *National Assessment Report on Climate Change*, led by the NDRC. Four years later, in 2007, *China's National Climate Change Programme* (hereafter referred to as the *Programme*) was released under the auspices of the NDRC. The *Programme* was the first governmental document aimed at mitigating climate change problems in China. China was the first developing country to produce a comprehensive national climate change programme, demonstrating a positive and aggressive attitude toward climate change. After the *Programme* was promulgated in 2007, the Chinese government published its annual report on climate change in 2008 (NDRC 2008, 2009a, 2010). These reports have followed the basic principles and strategies set up by the *Programme*.

In general, as the primary guideline, the *Programme* has demonstrated China's basic attitudes toward climate change. China does not challenge the scientific findings from the IPCC, that human activities are the main cause of global warming and climate change and that, therefore, it is necessary for human beings to cooperate together to tackle the threats of climate change (NDRC 2007: 4). The investigations from the

Programme also demonstrate that China is influenced by global warming and that extreme climate events will appear in China more frequently and will bring severe national and social disasters to the fragile ecological environment. Climate change will also bring critical challenges for China's current development pattern, coal-dominated energy structure, energy technologies, agricultural sector and conservation of natural resources (NDRC 2007: 19-22). The *Programme* clearly points out China's vulnerability while facing the threats from global climate change. As a result, the *Programme* has listed basic principles to tackle climate change:

- (1) To address climate change within the framework of sustainable development.
- (2) To follow the principle of 'common but differentiated responsibilities' of the *Convention*.
- (3) To place equal emphasis on both mitigation and adaptation.
- (4) To integrate climate policy and other interrelated policies.
- (5) To rely on the advancement and innovation of science and technology.
- (6) To participate in international cooperation actively and extensively. (NDRC 2007: 24-49)

It is clear that although admitting climate change is a common threat to all human beings, it is the developed countries that should bear the obligation to reduce GHGs emissions ahead of developing countries, after the 'historical responsibility' is taken into account. On the other hand, the priority for developing countries is to pursue sustainable development, no matter how ambiguous the concept is. China's strategic concern is that sustainable development is as important as emissions' reductions. As a result, China will "stick to its sustainable development strategy", which refers to energy efficiency improvement, energy conservation, the development of renewable energy and

ecological preservation and construction (NDRC 2007: 58). President Hu restated this principle that “climate change is an environmental problem, but it is, in essence, a development issue” at the G8 Summit in 2007 (Tian 2007c). Meanwhile, the challenge of climate change also provides an opportunity for China to adjust its energy structure, to transfer in advanced technologies from foreign investors, to adapt to the challenges smoothly and to maintain social stability and ecological sustainability. The CDM is welcomed by the *Programme*, which also asks to make effective use of the CDM Fund (CDMF), established in October 2005, to support China’s measures on climate change. The encounters among governmental rationalities of sovereignty, development, market and environment started within China’s politics and governance of climate change as the CDM was introduced to China, this thesis argues.

China is not unfamiliar with market-based instruments (MBIs) to tackle environmental degradations. Through the effort of the Asian Development Bank (ADB), the MBI implementation of emissions trading was encouraged in China from 2001. The Chinese government prefers those solutions that ‘incorporate economic and administrative efficiency’ (Morgenstern *et al.* 2005: 152). The emissions trading mechanism was introduced as a measure to solve environmental problems at a lower cost. Research has shown how China adopted the MBI to improve air quality in Taiyuan, an industrial city (Morgenstern *et al.* 2005). China had started to pay attention to the CDM after the *Protocol* was concluded in 1997 and after the *Protocol* entered into force in 2005, China immediately promulgated the *Measures for Operation and Management of Clean Development Mechanism Projects in China* (NCCCC 2005), and it was amended in 2011 (NDRC 2011) (hereafter referred to as the *Measures*) and established the CDM Fund (CDMF) in October 2005. The *Measures* recognise that the essence of the CDM is to allow developed country Parties, in cooperation with

developing country Parties, to acquire certified emission reductions (CERs) generated by the projects implemented in developing countries. (NDRC 2011: Article 2). In Article 2, the Measures of the CDM in China should meet the requirements of China's strategy of sustainable development. In Article 6, the *Measures* emphasise that the implementation of the CDM projects shall not introduce any new obligations for China other than those under the *Convention* and the *Protocol*. It is apparent that China's strategic concern on sustainable development remains at the centre of its CDM policy. The *Measures* also points out the priority areas for CDM projects in China, which are those related to energy efficiency, the development and utilisation of new and renewable energy and methane recovery and utilisation. Meanwhile, through the CDM practices, China welcomes the transfer of 'environmental friendly technology' to China (NDRC 2011: Article 4).

The NDRC is China's DNA for the CDM, according to the *Measures*. Under the NDRC there is a National CDM Board, whose task it is to review and approve applied projects. In short, the operations of the CDM projects and the CDMF are under the lead of the NDRC and NCCCC, in which the director of the former is also the leader of the latter. The main targets of the CDMF are to enhance the capacity of research on climate change, to raise public awareness and strengthen education on climate change, to promote energy efficiency, to encourage the employment and development of renewable energy and to enhance the adaptation capacity to climate change. The CDMF also engages in international cooperation. It aims to establish a platform for the buyers and sellers of CDM projects in order to lower transaction costs. It is obvious that the deployment of the CDMF is not restricted to CDM-related activities. Rather, it plays an important role in fulfilling China's sustainable development strategy.

As mentioned earlier, the CDM projects can be categorised into direct/non-CO₂ and

indirect/CO₂ ones. In China, the potential indirect CDM projects include renewable energy, energy efficiency and afforestation. According to research from the Institute for Global Environmental Strategies (2010), up until October 2010, 75% of the CDM projects in China are from renewable energy projects, in which 473 are hydro power projects and 259 are wind power projects out of a total of 970 registered projects. It is apparent that CO₂ projects constitute the majority of CDM projects in China. Comparatively, in India, another significant player in the CDM market, the scene is different. According to the *CDM Country Fact Sheet: India* (2009), by May 2009, 133 out of 420 (32%) registered projects were of biomass utilisation; 75 (18%) for wind power and 47 (11%) for energy efficiency. The regulations from *the Measures* which direct the investments on different CDM projects will be discussed in the next part.

5.3.3 The CDM with Chinese Characteristics

This part is not just to demonstrate ‘Chinese Characteristics’; indeed, there will be endless characteristics from different countries with different contexts and domestic conditions. The purpose of this survey is to explore the underpinning rationalities of China’s CDM practices in order to understand why China embraces the CDM so actively.

(A) Revenue Distribution as Investment Incentives

In the previous section, the distribution of sectors in the CDM demonstrates that non-CO₂ projects are more popular than renewable energy projects due to cost

consideration. However, China's current scenario shows that renewable energy projects are in the majority in its CDM market. How can this be achieved? Article 36 of the *Measures* regulates that the revenue from the transfer of CERs shall be owned jointly by the Government of China and the project owner because the emissions' reduction resource is owned by the government (NDRC 2011). The government's designated share of the CER revenues and other benefits under the *Measures* is:

- (1) 65% from HFC projects.
- (2) 30% from N₂O projects produced by hexanedioic acid.
- (3) 20% from N₂O projects produced by nitric acid.
- (4) 5% from PFC.
- (5) 2% from the other sectors.⁷⁷

As mentioned earlier, renewable energy projects occupy the majority of the registered CDM projects in China. Nevertheless, the situation is different when CERs are taken into account. Although 75% of CDM projects are from the renewable energy sector, they only obtain 11% of CERs. Meanwhile, 3% of projects from the N₂O decomposition and HFC reduction has issued 80% of CERs in China (Institute for Global Environmental Strategies 2010). Although non-CO₂ projects can accumulate huge profits with less cost, they cannot bring the benefits of sustainable development in terms of the adjustment of the energy structure and the substantial technology transfer (Guo *et*

⁷⁷ When the *Measures* was firstly promulgated in 2005, the regulations on revenue distribution were: (1) 65% from HFC and PFC projects; (2) 30% from N₂O projects, and (3) 2% from forestation projects and priority areas defined in Article 4, which are energy efficiency improvement, development and utilisation of new and renewable energy and methane recovery and utilisation. (NCCC 2005: Article 24). This regulation lasted until 2011 and the biggest change for the revenue was in the PFC sectors. Meanwhile, the new *Measures* in 2011 did not provide a detailed list of the last sector, although it still referred to those indirect CDM projects which were China's prior concerns. The EU-China CDM Facilitation Project recommended in its *Final Report* that considering the much higher costs of the PFC projects than the CO₂ projects, the revenue sharing rate of PFC projects should be equal to or lower than CO₂ projects (2010: 20). Meanwhile, the *Final Report* also suggested that the N₂O projects from nitric acid and adipic acid should be differentiated by considering the different costs (2010: 20-21).

al.). That is why China tries to direct the investment of the CDM projects through the financial regulation in the *Measures*. Sustainable development is still an ambiguous concept but China tries to fulfill this goal with Chinese needs and interpretations.

Besides the design in the *Measures*, China also promotes foreign investment in the renewable energy sector through other regulations. In the *Revised Catalogue of Industries for Guiding Foreign Investment Issued* (NDRC and the Ministry of Commerce 2007), renewable energy is one of the sectors to be ‘encouraged’. This creates the legal and financial incentives to encourage foreign project developers to invest in the sector. Through these policy tools, China makes renewable energy projects more attractive than other countries. It is clear that the energy efficiency and the adjustment of energy structure are the core concerns of China’s grand strategy of sustainable development. Moreover, the regulation of CDM revenue also demonstrates that the state has the legitimate right to ‘manage’ the natural resources within its territory. The property and the development rights alongside the GHG emissions are incorporated into the governmental rationalities of sovereignty and development.

(B) National Control of the CDM

According to the *User’s Guide to the Clean Development Mechanism* (Pembina Institute 2003), there are four different financing options of CDM investment:

- (1) Full or Partial Equity: a company finances all or part of a CDM project in order to gain full or shared financial profits and CERs.
- (2) Financial Contribution: a company financially contributes towards some portions of the cost of a CDM project in return for CERs.

- (3) Loan: a company provides a loan in return for CERs.
- (4) Certified Emissions Reduction Purchase Agreement (CERPA): a company agrees to buy CERs from the project directly (2003: 14-15).

Each option has different financial risks due to the uncertainty of the price and the amount of CERs expected at the end. The CERPA can be treated as ‘unilateral CDM’ where the CERs are purchased directly by the developed countries Parties without the involvements in the project design and investment in host countries. However, there will be fewer technological transfers to the host country in the unilateral CDM (Michaelowa 2007). Considering the need for technology transfer through CDM practices, most CDM projects in China are bilateral or multilateral. Meanwhile, the *Measures* has regulated the capital ownership of CDM projects in China. Article 10 rules that Chinese funded or Chinese-holding enterprises within the territory of China are eligible to conduct CDM projects with foreign partners (NDRC 2011). This regulation has prevented foreign project developers from completely taking over CDM projects and profits in China. Meanwhile, this regulation provides another policy tool for the Chinese government to direct the foreign investments in CDM projects regardless of what financing option is deployed. Again, Article 11 of the *Measures* represents the concern for state’s control and management, and the integrity of sovereignty in China’s CDM governance.

(C) Domestic Equity

While China claims its right to development, a further question should be asked: whose development is taken into account? China has more CDM projects than any other

country but the distribution between its rural and urban areas remain severely unbalanced. Among 2,732 projects approved by the NDRC, 1,255 projects are from western provinces. However, projects from the eastern provinces take the majority of the CERs. This domestic equity problem is not only happening in China. At the UN General Assembly debate on 'Climate Change as a Global Challenge' in 2007, Makhdoom Faisal Saleh Hayat, the then environment minister of Pakistan, said that the CDM seemed to favour large commercial projects which can generate a huge amount of carbon credits but have less impact on a country's sustainable development (FON 2007c). Unequal development problems could not be solved by the market alone or by these commercialised CDM projects. China's western regions and rural areas are less developed than the eastern and urban regions. According to the *Programme*, in 2005, the per capita GDP of the eastern areas of China was 2,877 US dollars whereas the western areas was only 1,136 US dollars, 39.5% of the former. Severe disparity in economic development exists throughout China. By the end of 2005, the poverty-stricken people in China's rural areas numbered 23.65 million, with the per capita annual pure income less than 683 Chinese Yuan (about 102 US dollars) (NDRC 2007). The western and rural areas may contribute less to China's overall emissions but these areas also have to bear the severe burdens of environmental degradations. The problem of domestic inequality in development was mentioned in the *Programme* and other official documents, such as the 11th FYP and the 12th FYP, but how China tackles this problem while implementing the CDM is not clear enough yet.⁷⁸ By examining the definition and practices of sustainable development in China in the next section, it helps

⁷⁸It is not clear if the domestic equity plays a crucial role for the CDM in China. According to research by the EU-China CDM Facilitation Project (2010), most projects are from underdeveloped areas such as the Western provinces. Nevertheless, considering that the investments in China's CDM are channelled to the fields of renewable energy and energy efficiency, it has become relatively natural that there are huge amounts of CDM projects in the Western or underdeveloped areas. These underdeveloped areas are where natural resources are least utilised, in other words, these areas have more potential to develop new energy and renewable energy projects. Meanwhile, the relatively few HFC and N₂O projects in richer urban areas have created a 'very large amount of CERs' (EU-China CDM Facilitation Project 2010: 8).

to clarify the essence of the CDM in China.

5.3.4 Problems of the CDM in China

By examining the implementation of the CDM in China, many Chinese scholars have paid attention to the relevant problems. Wu & Wu (2010) mention that there are four types of risk when a Chinese company engages in the CDM. These risks are: (1) The risk of examination and approval. There are three stages of CDM application, the DNA, DOE and CDM EB. Each stage presents different risks to the project manager in order to gain approval. In early 2009, the Chinese DNA approved over 1,500 CDM projects. However, fewer than 360 projects were registered to the CDM EB. This phenomenon will definitely create uncertainties for the investor. (2) The political risk. It refers to the uncertainty about the future of the CDM in the post-2012 period, since the CDM market is the direct product of the *Protocol*. The result of international climate negotiations casts a deep influence on the prospect of the CDM market. Meanwhile, Wu & Wu (2010) also point out that China is likely to accept binding targets under international pressure, which means that China will need to achieve, or import, carbon credits as well. The interactions within global climate politics will absolutely affect China's CDM market. (3) The economic risk. The financial risk that Wu & Wu (2010) refer to is the influence brought about by the global financial crisis in 2008, which decreased international investment in the CDM market. Meanwhile, the price of the global carbon market is determined by the Euro and the US dollar and fluctuations in the exchange rate will directly influence the profit of CDM projects. (4) The risk of the market. This risk comes from the fluctuating price of the CERs. After the financial crisis in 2008, the

price of the CERs declined dramatically. Within the European Market, the price went from 22 Euros per tonne in July 2008 to just 8 Euros per tonne in February 2009. Moreover, due to the lack of market information and pricing power, the values of the CDM projects in China have been underestimated. The review from Wu & Wu (2010) has clearly demonstrated the potential risks a Chinese company might face in the CDM market. Although the categorisation is simplified, it still points out that the CDM is essentially an artificial market. The relevant uncertainties will influence the development of this market. Meanwhile, although China has become the most important player in the CDM market, it still stays in a rather passive position. To achieve the power of pricing has become a strategic concern for China in the CDM market (Wu & Wu 2010).

Focusing on the institutional dimension of the CDM in China, Guo *et al.* (2009) argue that there are five main problems: (1) Centrality of CDM projects. The phenomenon that most CDM projects in China are in the renewable energy sector means that there is great potential to develop CDM projects in other sectors. (2) CERs are mainly from HFC-23, or the non-CO₂ sector. The problem is that there is less technology transfer in this sector and it is not helpful for the sustainable development in China. (3) Domestic imbalance between the eastern and western areas of China. Although the western area had more CDM projects (42%), the CERs from this area are only about 14.1% by 2005 (Guo *et al.* 2009: 32). (4) The lack of participation in the formation of methodology. Most methodologies of the CDM are still designed by the developed countries. The introduction of new methodology could influence the boundaries of CDM projects and the calculation of baseline scenarios. (5) The governance of the CDM in China is still insufficient. There is no clear criterion for sustainable development in the *Measures*. Moreover, the regulations of capital ownership and revenue distribution and the

regulation of the price by the NDRC in the approval stage have hindered the input of foreign investments. According to Guo *et al.* (2009), the reasons why China has had such problems when implementing the CDM are: (1) The participation from the business community is insufficient. The lack of awareness, finance and relevant experts has kept the business behind from active engagement. (2) The lack of an incentive mechanism. The burden of the cost lies mainly on the business, which makes the business less innovative. In the end, the types of CDM projects are highly centralised as the latecomers just imitate and repeat those approved projects. (3) The lack of governance. As the DNA in China, the NDRC cares about the examination and approval only, rather than the promotion and education of the CDM. The CDMF has been founded in order to raise public awareness. However, considering the source of the CDMF, which is based on the revenues of the CDM projects, the existence of the CDMF has actually influenced the willingness of the business community to invest in the CDM. In an unregulated market, CER sellers tend to attract buyers' investment by reducing the price, which weakens China's pricing power in the CDM market. (4) The increase of the transaction cost. The complicated methodologies and the approval process have increased the uncertainties for the CDM business.

Besides the domestic difficulties, China also faces the challenge from the CDM EB in the international arena. While China still occupies the majority of the registered projects and CERs, more and more Chinese projects, mainly in the hydro-power sector, are rejected or re-examined by the CDM EB (Zhuang *et al.* 2011). Most interviewees in this research had noticed this situation and treated it as a warning sign. The definition of baseline and additionality are the main disputes (Zeng *et al.* 2010). This phenomenon will be discussed in the next section. It is clear that China still faces many problems while deploying the CDM as a governmental tool to tackle climate change. Both Wu &

Wu (2010) and Guo *et al.* (2009) have clearly pointed out the problems and risks of implementing the CDM in China. However, a big difference between their observations and the criticisms in Section Two is that the potential conflicts between the market mechanism and sustainable development are seriously neglected in Chinese research. Indeed, the concept of sustainable development almost does not appear in these two pieces of research. Moreover, both Wu & Wu (2010) and Guo *et al.* (2009) do not question if real reductions can be reached through the CDM. The problem of additionality is just a problem of the methodology on an operational level, rather than a substantial challenge to the whole idea and design of 'carbon offsetting'. Zhuang *et al.* (2011) also notice the phenomenon that Chinese CDM researchers have not produced a systemic analysis of the problem of additionality. As a result, the two main goals of the CDM, emission reductions and sustainable development, disappeared in this Chinese research. The actual needs of the local communities, where CDM projects are carried out, do not gain attention from the government and the researchers. In the end, critical voices on the introduction of the CDM are rarely heard in China, which will be discussed later.

From the economist's perspective, it is understandable that Guo *et al.* (2009) ask for a deeper reform of the CDM in China in order to build up a more efficient market. Their suggestions are to remove the obstacles and to make the government and business more market-oriented. It is clear that the rationality of the market has been installed alongside the implementation of the CDM in China, no matter to what extent. However, according to Wu & Wu's research (2010), again from an economist's point of view, those uncertainties actually imply the artificiality of the carbon market in which the politics and the state(s) play crucial roles. The next section moves on to discuss the encounters and interactions between the economy and politics, market rationality and other

governmental rationalities of the CDM in China.

5.4 Conflicting Rationalities? Practice and Mentality of the CDM in China

During the fieldwork for this thesis, almost every interviewee had a positive attitude towards the CDM in China. Yu Jie, head of the policy and research programme at the Climate Group, a market-orientated and UK-based NGO, claimed that although the profits from the CDM might not be so high, the point is “how to diffuse and install a *market mentality* into Chinese society”. By 2009, almost every province has its own CDM centre in charge of attracting CDM investments. Moreover, there is at least one CDM consultancy in every province. This development is the ‘invisible benefit’ of implementing the CDM in China” (Yu, interviewed in 2009). “I anticipate that in the future, every company will have an office solely responsible for the affairs of the CDM, carbon market or green investments, in general terms”. Meanwhile, there is also the strategic concern that “if there will be a global carbon market in the future, it will be better for China to participate in it as early as possible. The CDM practices would be a valuable experience on the way to a carbon market” (Yu interviewed in 2009). Yu’s argument had reflected the target of her organisation, which aims at promoting a ‘Clean Revolution’ through market mechanism (The Climate Group <http://www.theclimategroup.org/>). Meanwhile, Yu’s expectation also clearly demonstrated that the introduction of a market mechanism is not just about the establishment of relevant institutions but also about the installation of the ‘mentality’ of the market, which believes that the market can provide a more efficient way for

governance. Most interviewees also agreed that the introduction of the CDM can facilitate the governance on climate change in China.

This common mentality shared by the interviewees in this research seems to fit the neo-liberal governmentality, either it is represented as ‘politics via markets’ (Lipshutz with Rowe 2005), commodification of the environment (Lohmann 2008), ecological modernisation along with green governmentality (Bäckstrand & Lövebrand 2007), or the reterritorialised control of the South by the North’ in the CDM practices (Patterson and Strippel 2007). The core of this rationality is ‘let markets do it’, as discussed in Chapter Three. Nevertheless, while witnessing the global expansion of the carbon market and the market rationality, this thesis keeps arguing that it is inappropriate to appeal to ‘bring politics back in’ (Lipshutz with Rowe 2005). The introduction of the market mechanism may be viewed as the triumph of the market rationality to varying degrees; nevertheless, it is also possible that the politics and the state do not retreat while facing the global trend of marketisation. In China’s case in the CDM implementation, it is clear that the market rationality, the neo-liberal governmentality, is not the only, or most dominant, governmental rationality underpinning China’s domestic climate governance. The rich observations from the interviewees, who were part of the CDM business, have helped build up a vivid picture of the interplay of market rationality and other governmental rationalities.

Karla Lieberg, who works for Climate Focus, a climate consultancy mainly working in the carbon market, has shared her experiences of doing CDM business in China in her interview. She is the chief representative of this transnational consultancy is based in the Netherlands. She can speak fluent Mandarin and had resided in China for over two years when this researcher conducted an interview with her. The interview was in English but she clearly claimed: “it is the ‘guanxi’ (關係) that determines if a CDM

project can be approved by the NDRC or not”. ‘Guanxi’ is the Chinese translation of ‘relationships’ and ‘connections’, which refers to the dynamics and social networks of Chinese society. Moreover, as mentioned earlier, since 2008, Chinese CDM projects have started to face stricter examination by the CDM EB. According to Lieberg, “it is all about ‘politics’ in the CDM EB” (interviewed in 2009). She did not give her definition of ‘politics’ but it is clear that she has recognised the importance of non-market/economy factors in the CDM practices in China.

Similar but more detailed observations appeared in another interview with Chen Cianlei. Chen used to work at the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) and had been sent to Europe on trade and investment business. After leaving the government, he started his own company, Alpha Business Systems Ltd., and started engaging in the business of environmental consultancy in China, including CDM projects. As discussed earlier, both Wu & Wu (2010) and Guo *et al.* (2009) mentioned the complexities of the application stage. According to them, the difficulties of application are due to the lack of regulation of the CDM in China. However, based on his own experiences, Chen claimed how non-legal factors influenced the final decision. As Lieberg had pointed out, Chen also emphasised: “*guanxi* is very important, especially at the local level”. “The relationship and the connection with the government at different levels always matters while operating the CDM in China. Different governments have their preferred buyers and sellers and it is through *guanxi* that each party has the chance to build up a connection and develop the business.” In the end, “the commercial interests are not the main concerns, which meant it is questionable if the agreed price of the CDM project is reasonable or not.” “The transparency of approval and pricing is extremely insufficient and some CDM projects even prepared two separate contracts for different investigations.” Fundamentally, “the market mechanism

is incomplete as corruption and power struggles abounded” (Chen, interviewed in 2009). This thesis noticed the inner contradiction from Chen’s argument. On the one hand, he criticised the inefficiency of the public sector. On the other hand, he still recognised that it was necessary for the government to direct the environmental market. This mentality will be discussed later. In short, both Lieberg and Chen’s experiences have clearly pointed out the crucial role of non-economic factors in the implementation of the CDM in China.

It becomes apparent that market rationality is not as influential as other governmental rationalities in China’s climate governance. Most interviewees and Chinese research recognise the incompleteness of the CDM market in which governmental power keeps appearing and interfering. However, just as Chen’s reaction has demonstrated, there is a mentality of accepting the coexistence of state power and the market force at the same time. Except for the argument from Guo *et al.* (2009), which requests the fundamental marketisation of the CDM in China, almost all of the interviewees recognise the existence and role of the state in this process. For them, it is not ‘politics via markets’. Rather, they all notice the huge influence of politics on the carbon market. This understanding kept surfacing while the issue of the additionality problem was also discussed in the interview.

As this thesis has mentioned, the ‘problems’ of the CDM practices in the Chinese context is quite different from the Western research based on the problem of additionality, which was discussed earlier. When asked about the problems of additionality, most of the interviewees just recognised that it was a general problem but not the primary problem in China’s CDM practices. Many interviewees just claimed, ambiguously, that it is not easy to measure and define baseline and additionality. “What else (numbers) can we trust except those from the National Bureau of Statistics?” Ang

Li from the WWF asked me when the problem of calculating additionality in China was questioned in the interview (Ang, interviewed in 2009). The implication was that there would not have been the additionality problem if the NDRC had approved the CDM project. Yu, from the Climate Group said: “the concern of additionality is a *Western* perspective”. “Considering the need for development in the South, it is necessary and unavoidable to develop some industries, such as renewable energy, whether there is foreign investment through the CDM or not” (Yu, interviewed in 2009). For Yu, the assumption of ‘pure’ additionality is problematic from the beginning. Considering her positive attitude to promoting the market mechanism in China, it is obvious that the real reduction is less important than the establishment of carbon markets. Chen, from Alpha Business Systems, also argued that “the additionality concern reflects the *Western* viewpoint”. “China’s need for domestic development had to be taken into account” (Chen, interviewed in 2009). In the end, ‘additionality’ was not such a serious problem in China. On the one hand, the interviewees were aware of the influence of political power in the CDM practices, because, as a result, even if the applied projects really fulfilled the additionality requirement, it was not the deciding factor in gaining approval from the DNA. On the other hand, it is clear that if a real reduction can be reached through the CDM or not is not the primary concern for the interviewees of this research, including officials, NGO campaigners and the CDM consultants. This trend is strange because, in the negotiation stage, the reason why China and India opposed the proposal of flexible mechanisms was due to the concerns about real reduction from industrialised countries. They were worried those flexible mechanisms would become the tool of carbon offsetting and that industrialised countries would use these mechanisms to escape from their historical responsibilities. The introduction of the additionality principle indeed reflects the need to pursue real reductions. China has dramatically

changed its attitude to additionality in the CDM practices, though in a tacit way, and now focuses much more on the benefits to be gained from the CDM. However, this thesis likes to keep questioning, what are the benefits and who gets them?

Is it about sustainable development, another crucial goal of the CDM? Sustainable development is another controversial issue surrounding the CDM. Although there have already been many standards that can evaluate the performance of sustainable development in the CDM, including the South-South-North Matrix Tool, the Golden Standard and the MATA-CDM approach (Lenzen 2007, Olsen 2008), a common criterion is still lacking when implementing the CDM. In the *Measures*, China emphasises the importance of pursuing sustainable development, however, there is no clear definition.⁷⁹ Regarding the practical situation, Zhu from the China GEF Office claimed that the CDM certainly brought an increase in job opportunities and enhanced economic growth. Moreover, “the CDM practices also bring the benefit of ‘fairness’ in China since many projects in the renewable energy industries were in the less developed mid-western areas”. “Some CDM projects were supported by the Chinese government and the UNDP with Millennium Development Goals, which will improve local development”. (Zhu, interviewed in 2009) Nevertheless, according to Chen Hongbo, a CDM expert at the CASS, the creation of job opportunities was not the main benefit of the CDM practices. Instead, Chen argued, “when considering sustainable development in broader terms, the CDM can bring some real benefits”. Chen pointed out four dimensions of sustainable development: (1) to enhance the emission reductions domestically through the application of renewable energy. (2) From the economic perspective, those expected profits could attract public, mainly business, attention to renewable energy, which helped the transition of the energy structure in China. (3) The

⁷⁹The Measures only points out the primary fields of the CDM, which are energy efficiency, new energy and renewable energy and the recycling of methane and gas (NDRC 2011).

environmental conditions can be improved.⁸⁰ (4) From a macro perspective, the CDM did increase some job opportunities (Chen, interviewed in 2009). However, the implication is that the creation of jobs may not happen in local areas where those CDM projects are implemented. Rather, the introduction of the CDM may increase jobs mainly in fields such as carbon finance and consultancy. In short, the definition of sustainable development remains ambiguous but, again, it was not a serious problem for most of the interviewees.

Meanwhile, the public participation was severely dismissed, although it is a requirement when writing a Project Design Document (PDD). Chen from Alpha Business Systems said that during the preparation stage there needed to be a stakeholder meeting, including local environmental groups, local citizens and other relevant bodies, in order to evaluate the environmental and societal impacts of the potential CDM project(s). However, ‘basically it is just superficial’, said Chen. “Politics and power relations behind these meetings were far more important” (Chen, interviewed in 2009). The CDM practices may bring some real benefits but the distribution of those benefits remains unclear.

Regarding the economic benefits, is it what China wants to achieve through the CDM? According to the latest estimation by the deputy director of the CDMF in China, the scale of this fund will be about 10 billion RMB dollars (estimated at 150 million US dollars) by 2012 (Yu 2010).⁸¹ This accounts for only 0.14% of the national income in 2009 (estimated 6847.7 billion RMB dollars). Considering the increasing rejection of Chinese CDM projects in the CDM EB and the uncertainties of the prospect of the CDM in the post-2012 period, people should not be too optimistic about the economic benefits from the CDM in China. Nevertheless, although the central government

⁸⁰Chen did not give a detailed explanation of it. The implication is that if most Chinese CDM projects were in the renewable energy sector there should be less damage to the environment.

⁸¹It is the scale of the CDMF, not the entire carbon market in China. There has not been an official number of the actual scale of carbon market in China.

remains cautious about building up a national carbon market (An 2010), the carbon experimental scheme for regional trading will be officially launched in seven provinces and cities including Beijing, Tianjin, Shanghai, Chongqing, Shenzhen, Guangdong province and Hubei province in 2013.⁸² The experiment is preparation for a national carbon market which is expected to be launched in 2015, according to deputy Minister Xie from the NDRC (Xinhua 2012). Meanwhile, trading centres for carbon emissions and pollution rights have been established in several Chinese cities, including Tianjin, Beijing, Shanghai, Wuhan, Hangzhou, Kunming and Chengdu. Taking Shanghai Environment Energy Exchange (SEEX) which was established in 2008, as an example, it has 7 branches in China and 34 offices abroad. The aims of the SEEX are not only to facilitate domestic carbon trading, but also to enhance the South-South cooperation through establishing a multilateral trading system of the environment and energy in China, the UNDP and other developing countries. By doing so, the SEEX expects to enhance the capability of other developing countries to tackle climate change through the market mechanism (Li 2012). It is clear that the market mechanism is deployed as an effective governmental tool to solve environmental problems in China (State Council 2011). Nevertheless, besides potential economic profits, what does China really care and expect to gain from deploying a market mechanism in its environment and climate governance?

Through the review in Chapter Three and this chapter, instrumentality is embedded in the rationality of market in China since the market mechanism was introduced to Communist China in the late 1970s. The gradual path of economic reform in the last three decades and the constant worry of ‘peaceful evolution’ from the West through non-political spheres have made China cautious of the deployment of market mechanisms. Consequently, the introduction of a non-political or apolitical sphere is

⁸²Prior to 2013, the exchange centres in Beijing, Shanghai and Tianjin have had their trading business for years.

essentially a political affair, or under political monitoring from the beginning. Almost all the interviewees from the CDM business agreed that the power of the governments and the politics are a crucial part of CDM practices in China. While facing overwhelming CPC over Chinese state and society, the rationality of market is unavoidably instrumentalised and it has to be operated in order to enhance the legitimacy of the CPC. The embedded instrumentality has also easily incorporated market rationality into various governances in China, including environmental and climate governance.

From previous reviews, it is apparent that the protection, preservation, management and governance of the environment are foreign and brand new concepts to the Communist China. China does have a fragile ecological system and has serious environmental degradations; nevertheless, the environmental problems are never just environmental in China. Rather, environmental governance is integrated into China's overall strategic concern with the concept of sustainable development, as this thesis reviews. From the SEPA to the MOEP, the governmental agencies for the environmental issues are always under the direction of the developmental and planning organisation, the NDRC and its predecessor. It is apparent that environmental governance in China serves various ends beyond environmental concerns. The rationalities of sovereignty and development have a dominant influence on the perspectives about which environmental problems need to be managed, which goals need to be fulfilled and through which means. Environmental goals can be realised through administrative or authoritarian measures, such as the case of completing the goal of carbon intensity in the 11th FYP; but they can also be fulfilled through non-political measures, such as a proposed carbon market in the 12th FYP. Although many Chinese researchers have argued that a good environmental governance is the mode in which the government, the business and the public participate (Zhu 2007, Zhuang *et al.* 2009), this thesis contends

that it is not so crucial if the public and private sectors can be incorporated in the process of governance in China's case. What matters is to explore what frames the scales and imaginations of environmental governance, and under what circumstances what means are viewed as feasible. The ambiguity of the definition of sustainable development in China has created the space for the constant interpretation and reinterpretation that this concept can be widely referred to almost every goal of development, from energy efficiency, readjustment of industrial structure, land use and afforestation to job creation; as long as these goals fit the national circumstances (Zhuang *et al.* 2009: 266). To maintain the right of development is the core concern, meanwhile, the autonomy to categorise the ends and means of environmental governance is the key to grasp the role of the sovereignty rationality.

This framework can be used to examine the CDM in China as well. Initially, the CDM was designed to serve for the environment's good so that through this flexible mechanism, the total GHGs emission were expected to decrease. Nevertheless, partly because of the mix of goals that the CDM brings to the sustainable development in concern, and partly because the environmental issues are constantly intertwined with other considerations in China; the CDM has been integrated into different governmental concerns since it was introduced in China. This explains why China uses the regulations of the *Measures* to direct the investments into those fields with characteristics of sustainable development. In other words, those preferred CDM projects, including energy efficiency, the readjustment of industrial and energy structures and renewable energy, are what China thinks necessary for its economy to keep growing. As a result, that explains why many interviewees treated the additionality disputes of China's CDM as a 'Western perspective'. China has its own needs to fulfil these goals and whether they are financed by the CDM or not, China will keep investing in these projects. The

disputes can be solved by better skills of writing PDD and applications, and clear regulation from the state (Zhuang *et al.* 2011). In other words, China's failure to meet the additionality requirement is not the essential problem. While China has claimed the significance of adjusting the industrial structure, energy saving, developing low carbon energies and increasing carbon stocks (State Council 2011), these goals have to be pursued and fulfilled anyway. The CDM is just one of various ways to reach these goals, whether it is additional or not. The instrumentality of market rationality appears again in the CDM case and it clearly demonstrates that the deployment of market mechanism is a governing tool to serve the rationality of development in China's climate governance. Meanwhile, the attitude to treat the additionality dispute as a 'Western perspective' from many interviewees represents the mentality of sovereignty. It is apparent that this attitude implies that it is China's right of development and China will maintain its path of development whether it meets the additionality requirements or not.

As a result, this thesis argues that neither profitability nor substantial reductions of GHGs emissions are the prior concerns of the CDM in China. Instead, this thesis argues that what China seeks through the CDM is: (1) technology transfer. This is one of the reasons why China encourages CDM investment in the sectors of energy efficiency and renewable energy because the advanced technologies in these sectors are what China needs for its grand strategy, which is pursuing the transition of the energy structure. Meanwhile, the CDM projects related to the REDD+ and land use also bring advanced technologies which China expects. This goal can be achieved through the regulation of the ownership of the CDM in China (EU-China CDM Facilitation Project 2010: 12-13), as discussed earlier. China's aggressive expectation to acquire technology transfer through the CDM has caused serious problems including subsidy policies and

protectionism, protecting intellectual property rights and domestic regulations between China and the EU, the main buyer in the Chinese CDM market (Romano 2010: 15-16). Romano points out that the EU and China share different understandings of technology cooperation which are different from China's 'centrally-planned' approach, and the EU prefers to diffuse and transfer technology through decentralised market mechanisms. Nevertheless, this situation has brought the severe complaints from Chinese stakeholders as they claimed "the excessive protection of technology holders from developed countries is preventing them from learning how to use these technologies and making their use widespread" (Romano 2010: 15).⁸³ It is apparent that the introduction of the CDM in China has its own strategic concerns and that the CDM is treated as a mechanism which facilitates technology transfer. This goal is different from what the EU pursues in that for the EU, the CDM is not driven by facilitating technology transfers, but "by calculations and revenues from CERs" (EU-China CDM Facilitation Project 2010: 11). In summary, although the CDM is a market mechanism, it is apparent that China deploys it as one of the policy tools to pursue technology transfer in those strategic fields.

(2) To fulfil China's goals of development. As discussed, China's definition of sustainable development remains ambiguous. Meanwhile, what this thesis has found is that Chinese CDM research rarely discusses the dilemma between market efficiency and the fulfilment of sustainable development which has raised fruitful research, as analysed in Section 5.2. The additionality principle and the integration of the concern of sustainable development were required by the developing countries in order to prevent the CDM from becoming a carbon-offsetting mechanism for the developed countries. As a result, the relative lack of China's attention to these two problems from officials,

⁸³The EU also criticises China's protectionism in the wind-farm projects stating that project owners are not allowed to import more than 30% of the required technology (EU-China CDM Facilitation Project 2009a:16).

researchers, and NGO campaigners to CDM practitioners has demonstrated that behind the obscured categorisation of sustainable development, what China really seeks is its (economic) development, sustainable or not. The Final Report by the EU-China CDM Facilitation Project emphasises that many CDM projects in China do not achieve the objective of sustainable development. It is firstly because project owners care about the maximisation of profits without taking social and environmental impacts into account. It is also because in China, different perspectives on sustainable development exist that are often viewed as economic development or environmental protection (2010: 16-17). This thesis argues that these controversies come from the ambiguity of the definition of sustainable development in China as long as the policies meet the requirements of China's grand strategy, and they are assumed to fulfil sustainable development. As a result, what is crucial is examining China's primary concern which is to maintain economic growth and development while tackling the threats of climate change and relevant international pressures. Global climate change and the relevant politics have created a framework in which the energy structure, or in other words, the reliance on fossil fuels, need to be reconsidered. China cannot maintain its path of development without reforming and readjusting its energy structure. As a result, the goal of development in China must be the goal of sustainable development, since it is related to the energy conservation, energy efficiency, new and renewable energy, and the readjustment of the energy structure. Again, the goal of development, sustainable or not, is pursued via both administrative measures such as subsidies,⁸⁴ or market mechanisms such as the CDM. Should China care about the economic profits only, there would be no regulations on the revenue sharing rate of CDM projects since the non-CO₂ projects can bring much higher profits.

(3) To enhance market mechanisms as a governing tool, or in other words, to bring

⁸⁴China's subsidies on renewable energy has caused trading disputes between the US and China. Please see the coverage from Chan (2010) and Bradsher (2011).

the specific arts of government to China. This thesis keeps emphasising that instrumentality has been embedded in the market rationality in China's practice since the beginning of the economic reform in the late 1970s. As a result, a market mechanism can be deployed to fulfil various governing ends and this is applied to the CDM in China as well. Based on the practices and experiences of implementing the CDM since 2005, China is willing to gradually establish its domestic carbon market in the 12th FYP and to improve its carbon financing system. Domestically, the CDM and other types of carbon markets can stimulate participation from the enterprises, attract financial investments and improve technologies. In other words, the introduction of the market mechanism does relieve direct pressure on the Chinese government in domestic climate governance. The apolitical and non-political areas are encouraged to make contributions in different fields including emissions reductions and strategies of sustainable development. Apparently this process is directed and monitored by the political power, but this has created a mode of good governance in China's environmental and climate governance in which the non-political agents and spheres are called to participate. In Chapter Three, this thesis argues that the governmentality approach should grasp the dynamics between the state and society, instead of focusing on society only. As a result, it is more important to examine the role of the CPC government in the process of establishing and expansion of the carbon market in China, or in other words, to examine the interplays among different governmental rationalities historically and contextually. Meanwhile, the improvement of the infrastructure of domestic carbon market and carbon finance helps to enhance China's capability in international negotiations on the prospects of the global carbon markets. The more familiar China is with the rules and regulations of the global carbon markets, the more likely China is able to challenge the discursive and pricing power in the market, which

is currently monopolised by the developed countries (People's Daily 2010a).⁸⁵ In other words, instead of providing cheap CERs to the industrialised countries, China expects to engage in the formation of the rules and regulations of the global carbon market in the post-Kyoto period. Again, the embedded instrumentality of the market rationality in China has made it fit to serve various governing ends. China's embracement of the carbon market in its climate governance, domestically and internationally, has to be grasped through this framework.

In summary, through the reviews of the regulations of China's CDM market and the critical examination of the practices through the observations from fieldwork, this thesis argues that while there exists a global trend to govern climate change through the global carbon market, China's case has demonstrated that it is not a one-dimensional process in that China can only helplessly adopt the market mechanism in its climate governance. Rather, the specific historical path has brought uneven relations among different governmental rationalities, in which the rationalities of sovereignty and development occupy dominant positions. Meanwhile, the history of how Communist China encounters the rationality of market has demonstrated that the CPC government is always cautious about the role of the market in its governance. As a result, instrumentality was embedded in the market rationality from the beginning of the economic reform. This instrumentality has created a huge space for the market mechanism to be deployed in various fields, as long as the goals are set up by China and for China's development needs. The rationality of environment plays a bit different role in China's climate governance. To govern for the environment has its own legitimacy in China, since China does have serious environmental degradations. Nevertheless, as a

⁸⁵ Yang Zhi, a leading expert on China's environmental economics, emphasised that what is crucial in the global carbon market is the power to set up the standards which are discursive and the pricing power. The past experiences from the CDM in China demonstrate that it is the buyer who has the pricing power. To establish China's own carbon market is the first step in the struggle for pricing power in the global carbon market. Her perspective on pricing power is widely accepted in Chinese media and research.

late-coming governmental rationality in China, the environmental rationality is soon be integrated into China's overall strategy concern in the name of sustainable development which tends to maintain China's development while tackling environmental problems and climate change at the same time. The goals of environmental governance may or may not be fulfilled by the market mechanism. This phenomenon just demonstrates that the governmentality of China's climate governance needs to be discovered in the interplay among different governmental rationalities, instead of being discovered 'in' the market, the non-political sphere.

5.5 Conclusion

The purpose of this chapter has been to research the development of the CDM in China in order to examine how China reacts to the expansion of the market mechanism/rationality in global climate change politics. This chapter started with a review of the emergence of flexible mechanisms in the tide of the global carbon market along with the expansion of global climate capitalism. The disputes around the practices of the CDM were discussed. Then it moved on to China's domestic level in order to review the development of environmental and climate governance in China. After the historical review, this chapter discussed how China introduced and deployed the CDM through its *Measures*. This chapter also discussed the problems of implementing the CDM in China. Finally, this chapter used the findings from the fieldwork to examine the conflicts, competition and interplay among four governmental rationalities in China's CDM practices. Much criticism has been made: the rising hegemony of the capitalist market is the driven force behind the present global climate politics. The neo-liberal

governmentality also creates the phenomenon of ‘politics via markets’. However, this thesis keeps arguing that if the field of ‘politics’ really withers should be examined critically and contextually. In some cases, the ‘politics’ just readjusts itself under the guise of market/private governance. It is not ‘governmentality without politics’, as Lipshutz with Rowe argue (2005). The concept of governmentality has always implied the existence of power and politics in different forms, and the dynamics between the state and society and between politics and the market need to be grasped historically, this thesis argues. Within different historical contexts, there might exist different modes to conduct power, to direct ‘the conduct of conduct’, to influence the ‘right disposition of things’ via different ‘arts of government’. China’s reactions, deployments and expectations toward the CDM have demonstrated a mixture of different governmental rationalities and its own specific arts of government, as analysed in this chapter.

As a result, this thesis claims it is important to examine that whether or not the introduction of the CDM in the global climate politics represents the “reterritorialized control of the South by the North”, “the ‘global gaze’ that moves to standardize and enroll both people and the natural world” and thus the “global culture of carbon management putting the world’s entire biosphere under one type of rule” (Paterson and Stripple 2007). This thesis agrees with what Paterson and Stripple worry about: the emergence of an ‘epistemological empire’, is a serious problem in the research of global climate politics. However, in China’s case it is clear that the South is not a concrete bloc where huge diversities with different historical and national circumstances exist. The (re)territorialised control in China’s climate governance in terms of the national control of carbon sinks and carbon stocks indeed serves various, not just one, universal orders. The spatiality and territoriality along with the concern of sovereignty behind global climate change is the universal order that Paterson and Stripple argues (2007).

Nevertheless, the will and desires to develop, and the belief in the market mechanism to efficiently manage the atmosphere represent two different universal orders, or in this thesis' terms, two different mentalities. Meanwhile, in facing these universal orders, such as China's encounters with different governmental rationalities which all derived from the outside world, the historical contexts and the relations among the state, society and market will influence the understanding, interpretation and transformation of these universal orders. This chapter has clearly demonstrated how China interacts with different governmental rationalities by examining its deployments of the CDM in its climate governance.

Nevertheless, this thesis also reminds the readers that although the concept of 'socialism with Chinese characteristics' is the crystallisation of China's experiences on how it has managed the non-political sphere to serve its particular need of development, it is China's case after all. These four governmental rationalities appear in China through historical contingencies; as a result, it is difficult to duplicate this analytic framework to other contexts. Meanwhile, this revised governmentality framework may be useful in grasping the dynamics underpinning China's politics and governance of climate change at present at both international and domestic levels. However, it is difficult to forecast the conditions of the potential changes which will influence the dynamics among four governmental rationalities. The insufficiencies of this framework will be discussed in the concluding chapter.

6. Conclusion

This thesis started with a simple question: what constitutes China's politics and governance of climate change at both the international and domestic levels? This question stems from the acknowledgement of the significance of China in international climate change politics. In order to grasp China's mentalities and strategies in international climate change negotiations, it has been necessary to examine the development, progress, coordination and conflict in the international politics of climate change. As a newly emerging issue within the IR discipline, climate change has attracted much research. However, this thesis has questioned whether the IR discipline has properly tackled the theoretical challenges posed by the phenomena of climate change. Can existing approaches provide a sound and comprehensive understanding of the politics and governance of global climate change? While a theoretical framework provides a certain perspective in order to understand, interpret, narrate, and even predict a certain phenomenon, what has been excluded and why? Where is the limitation of the framework and how is the boundary mapped? In this research, climate change is not merely a scientific phenomenon which happens in the natural world. Instead, the existence of climate change has to be understood through a systemic knowledge which also frames the 'right' attitudes and responses. In other words, while the environment, and the natural world, encounter human society, there is always a struggle over meaning. As a result, this thesis started by exploring the underpinning forces, structures, and governmental rationalities of global climate change politics at present. The aim was firstly to disclose the fundamental forces which frame the imagination and understanding of climate change and relevant politics and governance. This thesis then went on to analyse those forces and rationalities framing China's politics and

governance of climate change.

Through comprehensive theoretical review, this thesis has critically engaged with existing IR approaches. The neo-realist and neo-liberal institutionalist approaches have occupied the mainstream position of international climate politics in varying degrees. The assumptions of state-centrism, international anarchy and power politics by the realists has demonstrated the difficulty of reaching international agreement through cooperation. This approach also proves to be valid when climate change and relevant energy issues are integrated into the concerns about national security. However, its ahistorical ontology prevents it from grasping the dynamics of international climate change politics. The notions of 'state', 'state system', 'national interest' and 'power' should not be treated as predetermined and fixed. Rather, these concepts should be examined historically, contextually and genealogically. China may present a state-centric and self-interested image in international climate negotiations, but why? Why is the concept of transnational and international cooperation accepted by some states? Does every state have the same perception of what sovereignty is and what a state system should be? These dynamic pictures are sorely lacking in the realist account.

As another mainstream IR approach, neo-liberal institutionalism focuses on the positive side of international politics and claims that international cooperation and good governance can be achieved through the design and introduction of international regimes and institutions in different levels. While international environmental politics is defined as a realm of collective action for pursuing the 'public good', it is potentially useful to apply this approach in examining how collective action is operated, and under which conditions. What is interesting is that given the uncertain vicissitudes of international negotiations, either the realist or liberalist account has validity at any one time. However, the neo-liberalist approach also faces similar problems to those of the

neo-realist. If cooperation is based on a rational calculation, then the notions of 'interest' and 'rationality' should also be critically examined. Moreover, the benign assumption of institutions, rules, norms and regulations has limited the liberalist account to addressing international climate change politics. Why are certain institutions and norms accepted and established whereas others are excluded? Who benefits and who suffers while certain rules are built up? What knowledge and techniques are needed to establish certain norms and institutions? More fundamentally, while both neo-realist and neo-liberalist accounts occupy the mainstream discourse of international climate politics, this thesis questioned what the criterion is for evaluating 'success' or 'failure' in the frameworks of both approaches. The discourse of the mainstream approaches has demonstrated the fixed and static assumption of state-centrism, which fails to grasp the dynamic structural forces in global climate change politics.

Social constructivism emerges in the debate between positivism and post-positivism in the IR discipline and has focused research on the ontological and epistemological dimensions. It has also brought the non-material elements into the IR research, including ideas, norms, cultures and identity. The dynamic and mutually constitutive interaction between agents and structures has also challenged the fixed and static assumptions of mainstream approaches. Social constructivism helps depict the dynamic process of how certain norms and rules are formed and established in global climate change politics. Nevertheless, this thesis also argues that the lack of internal coherency has limited constructivist approach of providing a solid analytic framework. Not only the construction of certain norms but also the agent itself, the state need to be critically analysed. However, this thesis agrees that the strong version of constructivism has the potential to work with other critical IR approaches in order to bring more fundamental challenges through discourse analysis.

Critical IPE tradition has nurtured different critical approaches to IR, including neo-Gramscianism. These approaches either bring the structural dimension into analysis or challenge those concepts which are taken for granted, such as the state and national interest. By arguing that mainstream approaches focus only on the ‘problem-solving’ dimension, the critical approaches move the focus to the structural causes through historical and material analysis. The social relation and mode of production of capitalism is claimed to be responsible for the present environmental degradation. Neo-liberalism has become a hegemonic approach to tackling climate change, through the establishment and expansion of global carbon markets. Within carbon markets, the atmosphere and carbon emissions have been transformed into manageable and tradable commodities where the accumulation of profit is the core concern. Consequently, it is meaningless to argue as to whether international climate change politics succeed or fail. Moving the focus to the carbon market, it is argued that climate change has successfully been incorporated into global capitalism. Neo-Gramscian and other critical IPE approaches have explored the structural forces of capitalism in global climate politics.

The Foucauldian approach provides another critical perspective in the IR discipline. By taking discourse analysis and the governmentality approach into account, the knowledge, discipline, techniques, and art and mentality of government have become the objectives of research in order to examine the ‘conduct of conduct’ in governance. From the Foucauldian approach, the research on governance should move away from the institutional dimension to the multi-faceted sites where power/knowledge appears and operates. As a result, environmental or climate change politics fundamentally refers to the argumentative struggle where the notions of ‘environment’, ‘nature’ and ‘climate change’ are contested and contestable. This approach has led to the critique of neo-liberal governmentality which operates as ‘politics via market’. The contribution of this

approach is to disclose and explore the power relations and the self-regulated governance through liberal subjects and liberal social settings. The burgeoning of global carbon markets is thus treated as the emerging of green governmentality, which works with ecological modernisation to infuse and spread the 'right' way to govern climate change.

This thesis agreed that these critical approaches have provided an insightful explanation of the forces and structures of global climate change politics. However, when China is taken into account, the limitations of these approaches emerge as well. Within the critical IPE and neo-Gramscian approaches, capitalism is recognised by most researchers as the determinant structural force, and the introduction and growth of the CDM market in China seems to confirm this theory. Nevertheless, by examining the practices of the CDM and the mentalities of relevant practitioners, this thesis argued that the market rationality alone cannot provide a comprehensive understanding of China's climate change politics. Capitalism and the expansion of the market mechanism is a powerful structural force; however, it is risky to treat capitalism as the universal determined force, this thesis argued. It is also risky to pose the framework of a hegemony/counter-hegemony dichotomy. This thesis further argued that structural and historical analysis has to be applied to different fields of human society, such as the state and environment as well. The Foucauldian approach has developed an alternative research agenda which emphasises different modes of governance, relevant knowledge and techniques. Nevertheless, this thesis also pointed out that the development of the concept of governmentality was based on the history of the Western European states and societies. As a result, although the governmentality approach has provided a powerful critique of neo-liberalism, this thesis has questioned whether this approach can be applied to different contexts uncritically. Taking the authoritarian state into

consideration, how can the liberal art of government be implemented or even needed in such a society? Again, this raises the risk of generalising and universalising conditions from different contexts when applying the governmentality approach. While recognising governance as the ‘art of government’ or ‘rationality of government’, as the governmentality approach proposes, it is necessary to explore how knowledge and techniques are integrated into governing and how governance is implemented on different levels. As a result, this thesis has applied a revised governmentality approach whereby multi governmental rationalities are analysed when researching China’s politics and governance of climate change in both international and domestic levels. While examining different rationalities, this thesis did not build up arguments based on the governmentality/ counter-governmentality dichotomy. It is crucial to dynamically examine the relations among different rationalities, and to conduct the research contextually and historically. As a result, this thesis has taken an analytic framework examining the rationalities of sovereignty, development, market and environment in China’s politics and governance of climate change.

In this revised governmentality approach, this thesis focuses more on the ‘rationality of government’ and argues that it has to be understood through the historical examination of the relation between state and society in China. By doing so, it provides an understanding of the necessary knowledge, techniques and ‘arts of government’ for China’s climate politics and governance. These four governmental rationalities underpinning China’s politics and governance of climate change did not appear from a vacuum. Rather, this thesis has genealogically examined the encounters, confrontations, interpretations and transformations between China and these governmental rationalities. All these rationalities have international derivations; however, the historical contingencies they encountered with China has brought the uneven relationship between

these four rationalities. To pursue and maintain the autonomy of the state has always been the primary concern for Chinese ruling groups since China encountered the Western concept of sovereignty, both in theory and in practice. Meanwhile, the will and desire to develop and to become a modernised country has brought the rationality of development into a dominant position as the rationality of sovereignty. These two rationalities have constituted the obstinate, self-interested and realist image of China in international climate change politics. Nevertheless, the embedded technicality of the discourse of development has also opened up space for cooperation regarding technological issues. This explains the cooperative and active side of China in international climate change negotiations in various fields. The rationality of market does not have autonomy in socialist China; instead, it is always under the surveillance of the state, where it is instrumentalised as a governing tool to fulfil China's goals of development. Market mechanism can be used in China's environmental governance, along with other administrative measures. Meanwhile, the improvement of environmental governance in which public and private actors are assumed to take part helps consolidate the legitimacy of the CPC without bringing fundamental challenges to the ruling group.

Based on this multi-rationalities framework, this thesis has examined China's politics and governance at international and domestic levels. Starting at the international level, this thesis argued that although there is a marketisation trend in global climate change politics, China's foreign politics are driven by the rationalities of sovereignty and development. From Chapter Three, this thesis has conducted a historical review on the introduction of the concept of sovereignty to China. China was forced to learn the concept and practice of 'sovereignty', and to enter the modern international system consisting of sovereign states from the mid 19th century. Accompanying imperial

invasions from the West and Japan, the collective humiliated memory involved an obsession with sovereignty. To establish a modern state with integrated territories became the primary political task for Chinese leaders, in contemporary Communist China. The anti-Imperialism and anti-Hegemonism struggles, no matter for what political reasons, have strengthened the mentality that Chinese sovereignty is constantly threatened and needs to be consolidated. As a result, the rationality of sovereignty, together with the principles of non-interference, mutual respect, independence and autonomy, has become the guiding principle of China's foreign policy. Meanwhile, this history also demonstrates the need to pursue 'modernisation' in China, which brings the rationality of development into account. The need to prove the superiority of Communist China in terms of productivity has also strengthened the obsession with development. Deng's economic reform since the late 1970s has brought economic development to be the primary task for the CPC. The fast and lasting economic booms in the last three decades have infused the rationality of development into China's political agenda. In other words, the performance of economic development has become one of the most important foundations of legitimacy for the CPC. As a result, any (foreign) proposal which might impinge upon the integrity of China's sovereignty and China's path of economic development will be viewed negatively.

Examining the significance of these two rationalities underpinning China's politics of climate change at the international level helps to provide an understanding of the changes and continuities, flexibilities and intransigence of China's stance. In other words, why hard issues become harder while soft issues become softer, and what is the criterion to categorise the hard and soft issues can be grasped through this revised governmentality approach. By examining China's changes and continuities of attitudes towards different crucial issues in international climate change negotiations, it is clear

the rationalities of sovereignty and development play pivotal role underpinning China's stances and attitudes within international negotiations. The proposal of international MRV is fiercely opposed by China because it will bring foreign monitoring into domestic affairs. Nevertheless, China claims that the MRV principle can be applied to those domestic projects with foreign sponsors. In the end, what China really opposes is interference in its autonomy and independence. The legally-binding commitment to reduce GHG emissions is unacceptable, because it may endanger economic development in the developing world, especially China's own path to development. Meanwhile, based on the principle of 'common but differentiated responsibilities', it is the industrialised world that needs to lead the responsibility for emissions' reduction. While the industrialised world tries to transfer the burden to the developing world without substantial mitigation efforts, it is unavoidable for China to treat international climate change politics as a 'Western plot'. As this thesis has claimed, it is not impossible for China to propose a quantified target of emissions' reduction, as long as the target is voluntarily proposed by China itself, instead of being forced upon China by foreign bodies. This also explains why China welcomes and encourages other developing countries to deploy NAMAs. Meanwhile, aside from these main controversies, China becomes more flexible and active in other areas as long as they bring benefits of technological and financial transfers without challenging the integrity of China's sovereignty and its own developmental path. The dominance of rationalities of sovereignty and development also explains China's relations and interactions with other major actors in international climate change politics, including the US, the EU and the developing world. This thesis argues that it is not correct to treat China and the US only as rivals. These two countries have developed levels of cooperation in the field of climate science, renewable energy, and relevant mitigation and adaptation technologies.

While each country blames the other fiercely for the slow progress in the UN-led negotiations, this intensive cooperation and interactions between these two powers tell another story. Again, as long as its sovereignty is not challenged, China is willing to build up intensive cooperation with the US in international climate change politics. This is also the reason why the EU maintains a good relationship with China in this field. The prior aim of the EU is not to force China and other emerging developing countries to accept a legally-binding commitment; instead, what the EU tries to do is to export its mode of 'low carbon economy' to China. Through technological and financial cooperation, both the EU and China can have economic gains and can start restructuring into a low carbon future; although competition between both sides have emerged, in the market of so-called 'green technology'.

Regarding China and the developing world, this thesis has also provided an alternative explanation. China stays allied to the developing world in order to claim the importance of historical responsibilities. The discourse used by the developing world has become a useful negotiation tool. Most of the time, China simply discusses the emissions on a per capita basis, which draws it closer to other developing countries. However, the fast growth of its carbon emissions, along with the economic boom has placed China in a different category to the majority of the developing countries. This thesis thus argued that the emergence of the BASIC group has been inevitable, and China accepts this. Nevertheless, China is also aware of the importance of consolidating the developing world in international climate change negotiations. As a result, besides the discursive levels, China has started to develop better cooperation with other developing countries, especially the LDCs and AOSIS. More substantial support regarding the infrastructure of adaptation, relevant technologies and the experiences of the CDM are exported to the LDCs and AOSIS from China. Obviously, China prefers to

maintain the North-South framework rather than the US-China G-2 one, as the former helps China to fulfil its goals underpinned by the rationalities of sovereignty and development.

In Chapter Five, this thesis moved on to examine the domestic politics and governance of climate change in China. The implementation of the CDM has demonstrated the encounters of the market rationality with other governmental rationalities. This thesis has discussed the changes of China's attitudes towards the introduction of the CDM to the *Protocol*. During the negotiation stage, China opposed the proposal because the offsetting mechanism could exempt the industrialised countries from their responsibilities to reduce their emissions. The implication is that this mechanism should guarantee that the substantial reduction is not compromised. In other words, the additionality principle should be strictly abided by. Nevertheless, this thesis has discovered that additionality is rarely a problem for China's CDM practices. This is counter-intuitive, because many critiques have been made from civic groups or grassroots environmentalists and one of the problems of the CDM is the failure of the additionality principle. Besides, these general critiques also contend that the CDM brings little in the way of sustainable development to host countries and communities. As a result, the CDM is criticised as a market design for profit-seekers only. What is interesting is that these general critiques rarely appear in China, either by academic researchers or from the interviews for this thesis. What most Chinese practitioners care about are the complicated procedures to get the CDM projects approved. Moreover, whether or not the CDM can bring sustainable development or public participation is not a key concern, not to mention the fact that the definition of sustainable development remains ambiguous in China. This thesis thus argued that China's active performance in the CDM market cannot be treated simply as the expansion and victory of climate

capitalism in China.

By examining the practices and the *Measures*, and China's guideline for governing the CDM, it becomes clear what the priorities are as China introduces this market mechanism to tackle climate change. The eligibility regulation has prevented the possibility of foreign investors taking control of CDM projects in China. The regulation of revenue distribution has intentionally directed investors to renewable energy and other priority areas. Meanwhile, this regulation also implicitly reaffirms the monopoly of the state over natural resources, including GHGs emissions. It becomes apparent that China has set up clear priorities for conducting the CDM. This thesis argues that to pursue technology transfer, to fulfil China's goals of development and to enhance market mechanism as a governing tool in China's environmental governance are the primary targets and are the reasons that China conducts the CDM. Meanwhile, through these practices, the relations among four governmental rationalities become clear as well. The rationality of sovereignty represents the concern for the national control of the CDM projects. At the same time, primary areas are encouraged due to China's strategic concerns to maintain its path of development. It is obvious that rationalities of sovereignty and development, instead of the rationality of market, constitute the mentalities of the CDM in China. Meanwhile, the good environmental governance which demonstrates the rationality of environment has enhanced the legitimacy of the CPC, which has taken over focus on sovereignty and development throughout Chinese state and society. It seems that the introduction of the CDM and other proposals for the carbon market, the encouragement of business investments into sectors of renewable energy, and the active performance of Chinese environmental NGOs in China's climate politics can be treated as the emergence of 'good' environmental governance in China. Nevertheless, by examining the CDM practices in China and the interactions between

Chinese state and civil society, it is apparent that the state and the politics do not wither away or operate via markets, they stay where they are and people are aware of this.

This thesis has also discovered the importance of the *guanxi*, the complicated relations, in China's CDM governance. Although it was designed as a win-win mechanism (that emissions' reduction and sustainable development can be fulfilled at the same time), the CDM in China has proved that the market is merely treated as an apolitical tool to facilitate China's governance of climate change. The market rationality has been instrumentalised and the concerns of sustainable development and public participation have been neglected. The burgeoning of environmental or climate trading centres in China can be treated as the expansion of market rationality; however, the scale and the direction of these environmental and carbon markets are strictly monitored by the state and they exist to serve China's development.

As a result, the main contribution of this thesis is to provide a dynamic and contextual understanding of China's politics and governance of climate change at both international and domestic levels, which other approaches can partly do. It argues that the notions of 'state', 'governance', 'society', 'environment', 'nature', 'market', 'climate change', and 'development' need to be genealogically grasped in order to examine the formation and operation of different governmental rationalities in China. Through this framework, it is clear why some issues such as the MRV proposal and the legally-binding commitment have always raised fierce objections from China. Meanwhile, it also helps understand why China welcomes other cooperative measures in terms of technological and financial transfer, and market mechanism. Both of China's flexibilities and rigidity in global climate change politics need to be understood through this framework. The arguments from this thesis can be applied to international negotiations in the future. This framework also has moved beyond the dichotomy

between hegemony and counter-hegemony. This thesis argued that even if a neo-liberal hegemonic project exists and expands in global climate change politics, how hegemony is understood, adopted, transformed, and interpreted still needs to be analysed contextually and historically. The specific conditions in different states need to be dealt with seriously.

This research also has broader implications for different fields. First, with regards to the Foucauldian approach to IR, this thesis has demonstrated a means of applying and broadening Foucault's concepts into concrete analysis. But it has raised further questions with regards to the origins, ruptures and evolutions of these Foucauldian concepts. Does the governmentality approach necessarily lead to the critique of neo-liberal governance? Besides the micro and individual levels, can power embody itself in different ways while the context shows different state/society relations and different understanding of subject/subjectification? Is the effort to explore different governmental rationalities not closer to the research aim of the Foucauldian approach? This thesis accepted the assumption from the governmentality approach that it is crucial to examine the knowledge, the norm, the discipline, and the rationality of government. However, this thesis also argues that these concepts and categories have their own contexts which need to be taken into consideration seriously. Otherwise, it becomes difficult to understand why governing 'in the name or by the reason of the state' is so important in China's politics and governance of climate change. The Foucauldian approach should always bear in mind the risk of universalisation.

Second, for researchers on climate change, this thesis has explored the limitations of different IR approaches. It claims that the researcher in this field should transcend a superficial institutional understanding of global politics and governance of climate change. Structural forces need to be taken into account and those concepts taken for

granted need to be problematised. This thesis has critically engaged with neo-Gramscian and Foucauldian approaches and this thesis claims that an inter-disciplinary framework is necessary to conduct research on global climate change politics. What is crucial is to critically examine the assumptions and limitations of the approaches being used; researchers should not allow themselves to be hijacked by the theoretical tool.

Third, in terms of the policy of climate change, this thesis argues that the strategies from different countries need to be analysed contextually. Only by examining the political rationalities in different countries can the researcher correctly accommodate the core concerns surrounding climate change politics. In other words, it is crucial to examine the strategic importance of tackling climate change in different countries and contexts. The separation between the domestic and the international, the society and the state should be critically examined in order to grasp the dynamics at domestic and society levels. Meanwhile, how the knowledge of climate change is constructed, and what are the relevant norms and rules based on this knowledge should be analysed contextually as well. Fourth, for policy research in China, this thesis has also established a useful framework. The concern with governmental rationalities will help the researcher to grasp the dynamics beyond the institutional level. However, it is crucial to bear in mind that while dealing with different cases, different governmental rationalities may appear. For instance, in the research on China's military expansion, the rationality of sovereignty may still play an important role, but the rationality of security needs to be taken into account as well. This thesis has applied a flexible framework which can be deployed in many different fields. The point is how to contextualise different governmental rationalities and to examine the deployments of these rationalities.

Nevertheless, the fourth implication brings a further concern: can this framework be

applied to different cases in global climate politics? This thesis argues it is feasible in varying degrees. What is crucial is not to duplicate this framework since the essential concern of this framework is to contextually and historically examine the influences of different governmental rationalities. As a result, this framework can be applied to other developing countries where the development rationality plays a crucial role in climate governance. However, the knowledge of development in different countries may have entirely different contents and norms in order to fulfil different governmental needs. The different societal settings which refer to the relations between the state and society also need to be analysed contextually. In order to fundamentally explore the dynamics of politics and governance of climate change in different countries, this framework can help disentangle different governmental rationalities.

Nevertheless, this research also has some limitations. As argued earlier, the framework this thesis has applied is a flexible one, which implies the difficulty of providing a general and cohesive framework for future research. Different governmental rationalities have to be taken into consideration in different cases; however, a lack of criteria on the selection of rationalities will make it harder to develop the research in the initial stage. Moreover, even if certain governmental rationalities are selected, it will still be difficult to examine the emergence and influence of these rationalities. A huge scale of surveys and interviews over a long period will be needed for further research, in order to examine the pervasiveness of certain rationalities and mentalities in a society. Specifically, a variety of topics can be explored in the future based on this framework. They include (1) the interplay between major countries in global politics and governance of climate change. The changes of the mode of the interactions and the strategies and discourses being used by different parties can be grasped through this multi-rationalities framework. (2) The prospective of the carbon market and other

market mechanisms in China's governance of climate change and in other areas of environmental governance as well. It is to examine the interplay between market rationality and other governmental rationalities. This topic can move further to examine how the expansion of the carbon market and market rationality encounter different governmentalities from different contexts. (3) The formation of environmental or climate knowledge in different contexts. Based on this exploration, the research can move on to analyse how the environmental and climate governance are established and what governmental rationalities are involved. In the end, this thesis argues that it is necessary to keep exploring the governmental rationalities in different cases in order to grasp the dynamics of the present governances.

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Appendix

Interview List

- Ang, Li. Global Climate Initiative China Coordinator, *World Wide Fund for Nature Beijing Office*, Interviewed on 30/Jul/2009.
- Chen, Hongbo. Associate Research Fellow, *Institute of Urban and Environmental Studies, Chinese Academy of Social Sciences*, interviewed on 17/Aug/2009.
- Chen, Qianlei. Director, *Alpha Business Systems Ltd*, Interviewed on 14/Aug/2009.
- Chen, Ying. Vice Director, *Institute of Urban and Environmental Studies, Chinese Academy of Social Sciences*, interviewed on 12/Aug/2009.
- Hsu, Shiya. Campaigner of Corporate Social Responsibility, *Greenpeace China*, interviewed on 25/May/2009, 20/Aug/2009.
- Lei, Hongpeng. Low Carbon City Officer, *World Wide Fund for Nature Beijing Office*, Interviewed on 24/Jul/2009.
- Li, Yan. Campaigner of Climate and Energy, *Greenpeace China*, interviewed on 2/Jun/2009.
- Lieberg, Karla. Chief Representative in China, *Climate Focus*, Interviewed on 28/Jul/2009.
- Ren, Peng. Program Officer, *Global Environmental Institute*, Interviewed on 11/Aug/2009.
- Wu, Jingshen. Project Manager of Sustainable Financial Center, *Industrial Bank Co., Ltd.*, Interviewed on 21/Jul/2009.
- Yi, Yimin. Head of Communication and Public Affairs Department, *Friends of Nature*, Interviewed on 11/Aug/2009.
- Yu, Jie. Director of Policy and Research, *Climate Group*, Interviewed on 18/Aug/2009.
- Yu, Qingchan, Program Officer, *Global Environmental Institute*, Interviewed on 11/Aug/2009.
- Zhong, Ping. Programme Officer, *Administrative Centre for China's Agenda 21, Ministry of Science and Technology*, Interviewed on 17/Aug/2009.
- Zhu, Liucui. Deputy Director, *China Global Environmental Facility Office, Ministry of Environmental Protection*, Interviewed on 16/Jul/2009.
- Zhuang, Guiyang. Research Fellow, *Institute of Urban and Environmental Studies, Chinese Academy of Social Sciences*, interviewed on 13/Jul/2009.