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Experts and the science-policy interface in China's climate policy

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Chapter 4: Evolution of China's Climate Policy

4.1 Introduction

Before delving into SPI at each level of China's climate governance, this chapter asks: *What are the distinctive features of China's political system and policymaking, and how do these features influence the development of China's climate policy?* To address the question, Section 4.2 draws the contours of China's political system and Section 4.3 introduces four features of China's policy process. With the focus on the institutional and discursive change of China's actions for combating climate change, Section 4.4 demonstrates how China's climate policy has evolved since 1990. Section 4.5 concludes this chapter by answering the question above and summarises how the features of China's governing structure and policymaking can explain China's climate policy development in the different periods.

4.2 Contours of China's political system

How can one portray China's political system? Political scientists have used labels such as dictatorship, authoritarianism, autocracy, and one-party state to describe the regime type of China and its political leadership (Saich, 2001; Joseph, 2014; Bader, 2015; Heilmann, 2017; Glasius, 2018). Another related question is: What is the nature of the relationship between the Chinese Communist Party (CCP) and the People's Republic of China (PRC)? The CCP is the cornerstone of the PRC's political system since "all decisions are made in the Party and carried out by Party cadres, whether they work in the CCP apparatus, the government, the legislature, the judiciary or the People's Liberation Army" (Cabestan, 2018: 75). In the following, I draw the contours of China's political system to address the two questions mentioned above.

4.2.1 A unitary state

Administratively, the PRC is a unitary state, characterized by a concentration of power rather than a division of power concerning the executive, legislative, and judiciary functions. The Chinese political system is not based on the principle of checks-and-balances among the three branches (Sebastian, Shih, and Heep, 2017: 46; Hart, Zhu, and Ying, 2018: 7) as is common in the West, but on centralised decision-making. Additionally, the PRC is a unitary state where the national government has ultimate authority over all levels of local government, which is different from federal systems like the US (Joseph, 2014: 8). As Article 110 of the Constitution of the PRC states: "Local people's governments at all levels are responsible and accountable to the state administrative organs at the next

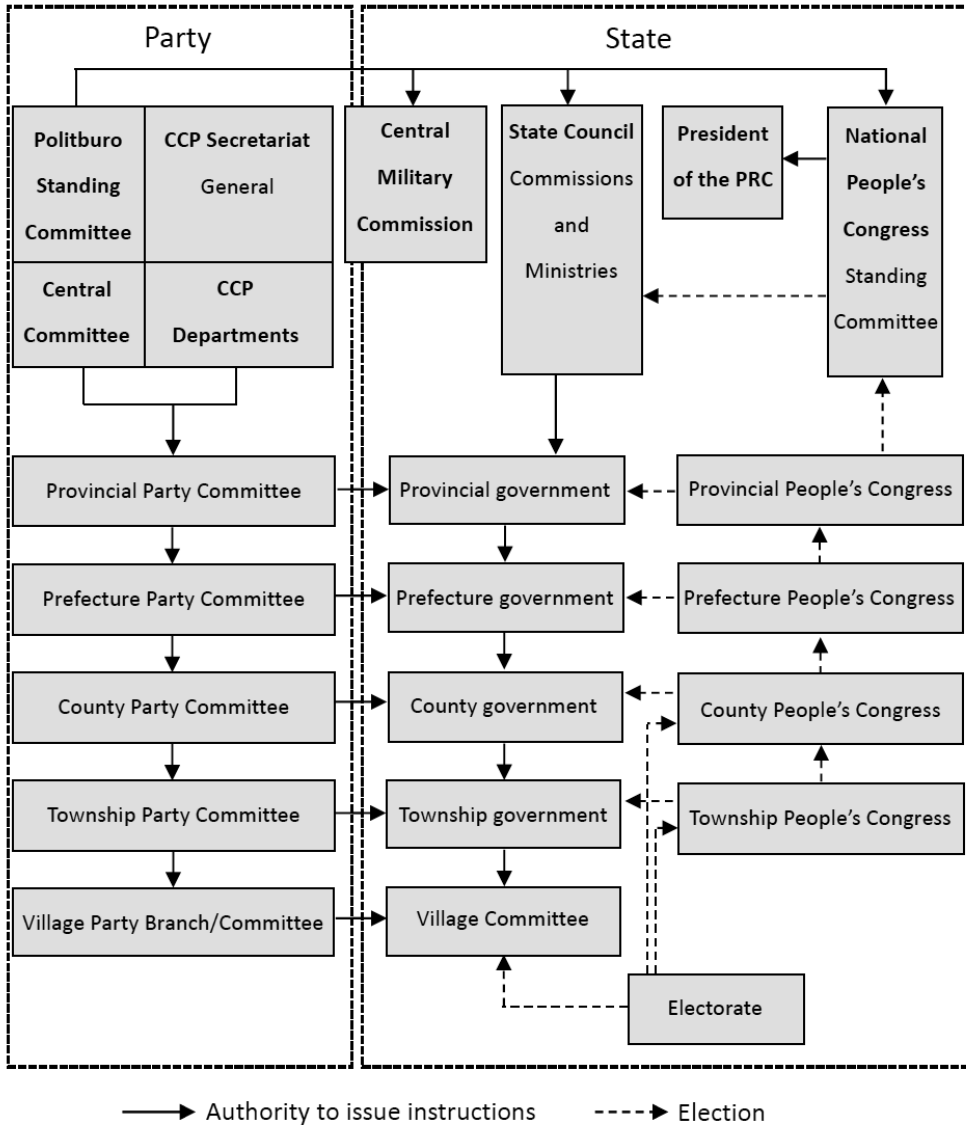
higher level. They are all state administrative organs under the unified leadership of the State Council” (quoted from Heilmann and Rudolf, 2017: 60).

4.2.2 A Communist Party-state

While China permits the existence of multiple parties, the CCP has overwhelming control, making the PRC a Communist Party-state (Gallagher and Xuan, 2018: 43). Constitutionally, the CCP is as important as the state government and the National People’s Congress (NPC) in China’s political system. As Article 1 of the Constitution of the PRC states: “Leadership by the Communist Party of China is the defining feature of socialism with Chinese characteristics.” In the parallel hierarchy of party and state (see *Figure 4.1*), the CCP dominates the state apparatus through its control of personnel appointments, its setting of policy guidelines (Lieberthal and Oksenberg, 1988: 5), and the ultimate decision-making power of the Politburo Standing Committee (Gallagher and Xuan, 2018: 68-69). At the central level, while the Prime Minister leads the State Council (government) and the General Secretary leads the CCP (party), it is the party that is ultimately in charge of the country. Additionally, the highest-ranking position of the party (General Secretary) is the most powerful individual in the PRC (Joseph, 2014: 13). At the local levels, the Secretaries of the Provincial and Prefectural Committee of the Communist Party of China are primarily the first-hand (一把手 *yi ba shou*) with the final say. Meanwhile, the provincial governors and city mayors are often the ‘second-in-command’ (二把手 *er ba shou*) and are deputy-secretaries of the Party committee (Zhong, 2003).

Worth noting is that while policy decisions in the PRC are shaped primarily by the government officials and Party cadres (Gilley, 2011; Moore, 2014), the place for and mode of decision-making depends on the attribute of the policy issue (Chao, 2014). When the policy problem is about ideologies, national security, economy or Party-state interests, the CCP will intervene in policymaking to safeguard the Party-state interests (Chao, 2014; Joseph, 2014). If the high-level Party leaders view the present policy problem as a matter of governing process which relates to bureaucratic jurisdictions, the power for decision-making will be handed over to government officials within the bureaucratic apparatus (Chao, 2014: Chapter 6).

Figure 4.1 China's parallel hierarchy of party and state



Source: Author modified from Heilmann (2017: 73).

4.2.3 A multi-level governance structure

While the PRC is defined as a unitary, centralised state with a hierarchical one-party system, multiple levels of local government implement and complement central government policies (see *Figure 4.1*). In China's multi-level governance structure, the central

government structure is generally duplicated at the lower levels of government (K. Brown, 2015; Gallagher and Xuan, 2018). Apart from the central government, there are five levels of administrative divisions (Joseph, 2014; Donaldson, 2017; Heilmann, 2017). First, there are thirty-one provincial governments (including twenty-two provinces, four directly administered municipalities (直轄市 *zhí xiá shì*), and five autonomous regions). Second, there are 333 prefecture-level divisions in China, including seven prefectures, 293 prefecture-level cities, thirty autonomous prefectures and three leagues. Third, there are 2,852 county-level divisions in China. Fourth, China has 40,466 townships. Lastly, while there are more than 600,000 villages in China, villagers are self-governed by village committees instead of governments (Joseph, 2014: 9). Although 'village' is not considered a government level, it performs several essential functions for hundreds of millions of Chinese residents (Donaldson, 2017: 5).

4.2.4 A two-term limit on heads of government units

Constitutionally, the term of office for heads of central (e.g., prime minister, state councillors, and ministers) and local government units (e.g., provincial governors and city mayors) is a maximum of two five-year terms. Yet, while the term of office of the Chairperson of the PRC (often referred to as the President of the PRC) was five years for two terms previously, the presidential term limit was removed by the NPC in March 2018 (BBC, 2018). Since Xi Jinping is still in his second term of office (2018-2023), it is to be seen whether he will be re-elected to the third five-year term.

4.3 Distinctive features of China's policy processes

Although the PRC is nominally a unitary Party-state, it has been argued that its regime is not 'a piece of iron plate' (鐵板一塊 *tiěbǎn yīkuài*) that is homogeneous and centralised (Lieberthal and Lampton, 1992; Harmin and Zhao, 1995; Marks, 2010; Chao, 2014). It has been observed that there is usually a disjuncture between leadership intention, governmental behaviour, and the actual results of a policy in China (Lampton 1987; Brødsgaard, 2016). To further examine Chinese politics and policy processes, one needs to understand not only how the policy is made and the content of policy but how the governmental and social actors implement the policy, the institutional structures, and the wider socio-political context in which the processes operate (Lampton, 1987: 3; Lieberthal and Oksenberg, 1988; Mertha, 2008; Habich, 2016). To explain policymaking, implementation, and the mindsets for developing a policy framework in China's environmental and climate governance, I discuss four characteristics of China's policy processes in the following sub-sections.

4.3.1 Fragmented authoritarianism and bureaucratic competition at the horizontal level

The ‘fragmented authoritarianism’ (FA) model (Lieberthal and Lampton, 1992) or ‘fragmented structure of authority’ (Lieberthal and Oksenberg, 1988) may be the best-known concept adopted by researchers for narrating China’s policy processes (Mertha, 2008, 2009; Brødsgaard, 2016; Habich, 2016). With the focus on China’s bureaucratic politics, the FA model asserts that “Authority below the very peak of the Chinese political system is fragmented and disjointed” (Lieberthal, 1992: 8), while a single dominant power does not exist in the disjointed bureaucratic sectors (Lieberthal, 1997). Concerning the inter-governmental relations at the horizontal level, government units (i.e., ministries/commissions/departments/bureaus/divisions) cannot issue binding orders to each other at the same level (Zhang and Barr, 2013: 111). Hence, the ‘bargaining’ among bureaucracies and an overall coordination for policymaking becomes vital (Lampton, 1992). To deal with complex issues that are in relation to various jurisdictions and interests of ministries, Chinese policymakers establish ‘leading small groups’ (LSGs) or ‘coordination groups’ with one or two ministerial departments playing the leading role (Chen, 2012: 25; Heilmann, 2017: 681).

Through the lens of FA, scholars assert that China’s climate-related policies are often the outcome of bureaucratic politics and inter-ministerial competition within some powerful government units (Hatch, 2003; Harris and Yu, 2005; Conrad, 2010; Marks, 2010; Chen, 2012). Furthermore, the intra-ministerial struggle among different departments in one ministry makes governing climate policy even harder.²⁰ In such a fragmented authority structure, even the leading agency of China’s climate policy before the government restructuring in 2018—the National Development and Reform Commission (NDRC), lacked the dominant power to control China’s climate change mitigation policies (Interviews 07, 17, 21, and 35) (see Chapter 6).

4.3.2 Centre-local relations, implementation gaps, and vertical bargaining between different levels of government

The second feature of China’s policy processes regards the centre-local relations (particularly the vertical bargaining between different levels of government), and the gap between central policymaking and local implementation (Li, 2010, Van Rooij, 2006; Kostka

²⁰ To take the National Development and Reform Commission (NDRC) as an example: Within the NDRC, the Department of Resource Conservation and Environmental Protection is responsible for the assessment indicator of ‘total energy amount,’ its Department of Climate Change is in charge of ‘carbon intensity,’ and the Energy Bureau is given the authority to controls ‘total energy intensity’ (Conrad, 2010; Tsang and Kolk, 2010; Andrews-Speed, 2012; Chen, 2012; Wang et al., 2014).

and Hobbs, 2012; Ran, 2013; Economy, 2014; Lo, 2014; Qi and Zhang, 2014; Mai and Francesch-Huidobro, 2015). Although the PRC remains an authoritarian and hierarchical political system, once the central government establishes targets and timetables, it relies on local officials' buy-in and implementation to achieve such targets (Economy, 2014; Qi and Zhang, 2014). In practice, however, the Chinese idiom, "When a policy comes from above, a countermeasure comes from below" (上有政策，下有對策 *shang you zhengce, xia you duice*), has best depicted the nature of China's policy processes (Interviews 15, 20, 21, and 24).

To explain, the centre-local dynamics have shaped China's environmental and climate governance (Qi et al., 2008; Eaton and Kostka, 2014; Qi and Zhang, 2014; Miao and Li, 2017). If a result of a policy is not as expected, the critical problem is usually not (central) policymaking but (local) implementation (Van Rooij, 2006; Guttman and Song, 2007). Although the national government promulgates many policies and regulations 'on paper,' these may not have actually been institutionalised at the local level (Pang and Zou, 2008: 73; Mai and Francesch-Huidobro, 2015: 270).²¹ How far local governments go depends on their motivations, capacities, and constraints (Tsang and Kolk, 2010: 192). Hence, Habich (2016: 10) reminds us that sometimes the main task of researchers is not to "analyse the extent to which central policies are implemented at the local level." Rather, it is essential to take a bottom-up view and detail the local policy processes to illustrate the strategies and the mindsets of local officials and other policy actors (see Sections 7.6, 8.6, and 9.3 for discussion).

4.3.3 The use of policy experimentation/pilot before scaling up

The third feature of China's policy processes is local policy experimentation/pilot (試點 *shidian*) (Teets and Hasmath, 2020), a process that usually takes several years ahead of national legislation (Heilmann, 2017). Policy experimentation implies that Chinese local authorities are encouraged and sometimes mandated to experiment with different institutional designs, mechanisms, or innovative alternatives (Heilmann, 2008 (a), 2008 (b); Economy, 2014: 187). The policies introduced at the local level can act as testing grounds for new ideas (Schreurs, 2017: 164). If successful, the innovative alternatives or policy models developed by localities can feed into national policy deliberation, and be scaled up to other localities (Heilmann, 2009: 458; Miao and Li, 2017: 300; Schreurs, 2017).

In China's climate governance, the rollout of policy experiments to explore innovative measures and mechanisms are critical, given the high heterogeneity of China's territories

²¹ For instance, local officials may ignore the strict regulations on land use (to protect the basic farmland) in practice because their priorities are to 'attract investment and develop the local economy' (Pang and Zou, 2008: 73).

and the central authorities' limited knowledge of how to deploy policy measures at the local levels (Zhao, Zhu, and Qi, 2016; Chen, 2017: 368; Lo and Chen, 2019). At present, while some provinces and cities are dedicated to innovating pilot programmes (Mai and Francesch-Huidobro, 2015; Chen, 2017; Chen et al., 2017), some localities seem to passively depend on the centre's policy signals and support to develop policy projects (Miao and Li, 2017).

4.3.4 The emphasis on scientific decision-making

The last feature of China's policymaking is the stress on scientific decision-making. Ever since Deng Xiaoping took over the control of the CCP and opened the post-Mao era in the late 1970s, the Chinese leadership has promoted 'scientific decision-making' (Lieberthal, 2004; Greenhalgh, 2008; Xue, Zhu, and Han, 2018), possibly to get rid of the shadow of the Mao Zedong Thought²² (Greenhalgh, 2008). During the Hu-Wen era (2003-2013),²³ the growth of Chinese think tanks²⁴ possibly resulted from the CCP's relaxation of ideological control (Li, 2017; Xue, Zhu, and Han, 2018; Zhu, 2019). Yet, during the Xi era, such think tank development can be interpreted as a response to the need to create a more robust scientific decision-making process as China is facing more critical domestic and international problems (Xue, Zhu, and Han, 2018).

Considering the authoritarian nature of the Chinese Party-state, non-governmental actors by large do not influence policymaking since virtually all policy stages are highly controlled by the 'iron hand' of the Chinese government (Beeson, 2010; Gilley, 2011, 2012; Lin, 2012). Yet, due to the regime's emphasis on scientific decision-making, experts and expertise, compared with other types of policy actors (e.g., NGOs) and their input, are the few exceptions with opportunities to exert influence (Lo, 2010; K. Brown, 2015; Zhu, 2019). Climate change is one classic case where experts are identified as a key driver of China's climate policy from the international level (Wübbecke, 2010, 2013 (a)) to the national (Liu, 2013; Williams, 2014; K. Brown, 2015) and local levels (Francesch-Huidobro and Mai, 2012; Mai and Francesch-Huidobro, 2015; Chen, 2017; Lo and Chen, 2019).

²² In general, the Mao Zedong Thought inherited and developed Marxism-Leninism both in theory and in practice. Its final goal is to overthrow capitalism and establish a communist society in the world. The fundamental basis of Mao's Thought is materialism and class theory, refuting theism and bourgeois humanitarianism. Meanwhile, Mao's Thought emphasises class struggle and the role of peasants in the revolution of building of socialism (Joseph, 2014).

²³ The Hu-Wen refers to then President Hu Jintao and Prime Minister Wen Jiabao.

²⁴ For example, think tanks in the terrain of China's international economic cooperation and its foreign policy (Chen, 2017; Li, 2017).

4.3.5 Implications for analysing the SPI in China's climate policy

The four characteristics of China's policy processes discussed above have laid a foundation for analysing SPI at each level of China's climate policy in the following chapters. First, horizontal bureaucratic competition exists in virtually all levels of China's climate policy (see Chapters 4, 6, 7, and 8). Even when explaining China's foreign climate policymaking, scholars have heavily used the concept of bureaucratic politics, administrative battles, and inter-agency competition at the central government level as critical factors (Hatch, 2003; Conrad, 2010; G. Chen, 2012; L. Chen, 2017). Second, the centre-local relations and the vertical bargaining among different levels of government is a reminder to juxtapose the different mindsets and strategies employed by policy actors at each level (see Chapters 7, 8, and 9). Third, the focus on policy experimentation allows us to study both implementation and innovation of policy instruments and mechanisms at the provincial and prefectural levels (see Chapters 7 and 8). Lastly, China's emphasis on scientific decision-making justified my selection of experts as a lens to explain all levels and stages of China's climate policy (see Section 4.4).

4.4 Evolution of China's climate policy

This section presents China's climate policy during the past three decades with the focus on the continuity and change of influential government units, policymakers' framing of climate change, and policy documents released by the Chinese central government since 1990 (see Annex I for a chronological list of China's climate change-related policies, laws, and documents). While China first saw climate change as a scientific and environmental issue, it then defined it as an economic and energy issue (see *Table 4.1*).

Table 4.1 Characteristics of the five phases in the evolution of China's climate policy

Phase	Characteristics
Phase 1 (before 1997)	Climate change was treated as a scientific and environmental issue
Phase 2 (1998~2006)	Climate change was identified as an economic and energy issue
Phase 3 (2007~2009)	China's climate policy is a repackage of energy, economic, and environmental strategies
Phase 4 (2010~2019)	China's climate policy includes local pilot programmes and experimentation
Phase 5 (2020~)	China is on the road to operating the ETS to reach carbon peak before 2030 and carbon neutrality by 2060

Source: this research.

4.4.1 Phase 1 (before 1997): Climate change treated as a scientific and environmental issue

The first phase of the evolution of China's climate policy is from the late 1980s to 1997, while China enhanced its linkages with the international community on a range of issues such as trade, arms control, environmental protection, and technology development (Economy, 1997: 19). During this period, Chinese decision-makers constructed climate change as a scientific and environmental issue (Zang, 2010). The China Meteorological Administration (CMA), the State Science and Technology Commission (SSTC), and the National Environmental Protection Agency (NEPA) were the three government units that took the lead on climate change-related issues. The CMA was the IPCC's contact agency in China that directed projects on climate science; the NEPA investigated the possible effects of climate change; and the SSTC initiated programmes to develop countermeasures. In addition, the Ministry of Foreign Affairs (MOFA) developed negotiation strategies (Economy, 1997: 24).

Since there was a need to coordinate different ministries, in 1990, the National Coordination Group on Climate Change (NCGCC) (國家氣候變化協調小組 *guojia qihou bianhua xietiao xiaozu*) was established, and the secretariat was located at the CMA. Song Jian, State Councillor, served as leader of the Coordination Group.

Compared to reaching a consensus on the scientific/political debate on climate change among all the countries, China's main task and accomplishment was uniting the alliance of developing countries and breaking China's 'diplomatic isolation' after the 1989 Tiananmen incident (Chen, 2008; Zang, 2010). China actively participated in negotiations on the UNFCCC and ratified it in 1993. It played a key role in the Kyoto Protocol negotiations and ratified the Protocol in 2002. Like the rest of the Group 77 (G-77), China insisted that the UNFCCC and the KP should demonstrate that the industrialised countries should take action first (Chen, 2008, 2012).

Among the ministries, the CMA took the first step. It nominated experts to the IPCC and deployed research projects for addressing climate change (Interview 18). Until the late 1980s, China's policymakers considered climate change as a meteorological phenomenon. Hence, the CMA had an exclusively natural science mandate (Conrad, 2010: 54; Qi and Wu, 2013; Interview 18). Since a clear political interest among the central ministries did not emerge, there was no significant bureaucratic competition (Conrad, 2010). Although China has never been absent in the international deliberations on global environmental issues, its participation in the international talks can be viewed as formalistic 'conference diplomacy' (Lee, 2005). Before 1990, even the MOFA did not pay much attention to the negotiations for constructing the international climate regime (Harrington, 2005: 107-109). Thus, the CMA had become the first Chinese governmental player to step into climate

policy (Conrad, 2010: 54-55).

The second government player involved in China's climate policy is the SSTC. In February 1987, when the SSTC established the Chinese National Climate Committee, which was composed of 13 government ministries and departments, the Committee office was set at the CMA. The Committee organised and coordinated climate-related research, formulated the national climate (research) plan and prepared for the national climate assessment reports (Interviews 18 and 19). Internationally, the Committee can be viewed as an effort to join the World Climate Programme (WCP), which the World Meteorological Organisation (WMO) initiated to focus on scientific research on the climate. In November 1990, the CMA and SSTC launched the *Blue Book on Climate of the People's Republic of China* with preliminary research results. Covering forty chapters and nearly fifty million words, the Blue Book comprehensively examined the greenhouse effect in China and the counter measures to avoid the negative impacts of climate change (Ding and Markham, 1993; Wang, 2002).

4.4.2 Phase 2 (1998~2006): Climate change is identified as an economic and energy issue

The second phase of China's climate policy development is from 1998 to 2006. China's official framing of climate change shifted from a scientific and environmental issue to an economic development and energy issue. Although the State Development Planning Commission (the successor of the State Planning Commission (SPC), later renamed as the National Development and Reform Commission (NDRC) in 2003), is the latecomer among the central ministries, it eventually took the lead in coordinating China's climate policy.

4.4.2.1 Bureaucratic competition as an explanation for China's focus on economic development

In 1998, the former National Coordination Group on Climate Change (NCGCC) was renamed as the National Coordination Group on Climate Change Strategy (NCGCCS) (國家氣候變化對策協調小組 *guojia qihou bianhua duice xietiao xiaozu*), and the secretariat was transferred from the CMA to the SDPC (later the NDRC). According to Qi and Wu (2013: 303), the newly added word "'strategy' highlighted the shift of the group's function from fact-finding to strategy development, both domestically and internationally." The transformation of China's bureaucratic apparatus for addressing climate change symbolises that apart from seeing the issue as only a matter of international negotiations, Chinese decision-makers have linked climate change to economic development and viewed it as a national strategy (Schreurs, 2011; Interviews 07, 24, and 46).

The bureaucratic restructuring in 2003 reflects the diversification and increased complexity of China's interests in both international climate negotiations and domestic policy development. It dictates a pecking order for the different bureaucracies involved in the decision-making process (Chen, 2009). While the NDRC (successor to the SDPC) continued its dominant status in NCGCCS by serving as the chair of the coordination group, MOFA, NEPA, CMA, and the Ministry of Science and Technology (MOST, successor of the SSTC) served as 'vice-chairs' of the NCGCCS. Since China started to focus on the economic impact of climate change, the influence of the CMA and NEPA diminished, and the NDRC and MOFA became two dominant players that shared the decision power during the international climate talks (Heggelund, 2007; Conrad, 2010). Meanwhile, the MOST has retained its role in the field of negotiating technology development and transfer (Interviews 21 and 26).

4.4.2.2 A science-based explanation for China's focus on energy issue

Phase 2 also witnessed the transformation from 'climate change as a scientific issue' to 'climate change as an energy issue.' Further, there is a science-based explanation for why China's climate policy was framed as an energy policy in addition to the bureaucratic competition. In the following, I explain how the Chinese political leaders deployed high-end experts to study China's energy policy and how the experts' suggestions for China's grand strategy was adopted by the leadership.

When the Hu-Wen administration took over the PRC in 2003, the State Council commissioned two research projects on China's energy strategy to some top expert institutes in Beijing (TCTCEO and INNETYU, 2004: 36).²⁵ After undertaking the research projects, the experts suggested strategies for China (Chen et al., 2003): (1) to incrementally get rid of their dependence on coal; and (2) to achieve energy transformation incrementally instead of moving away from the over-reliance on fossil fuels in the short run.

Furthermore, the experts proposed three elements as the core of a sustainable energy strategy (Chen et al., 2003): (1) prioritising energy conservation and efficiency instead of increasing energy supply; (2) developing multiple sources of energy (including accelerating the development of renewable energy);²⁶ and (3) adopting the doctrine on

²⁵ One is 'China's Sustainable Development Strategic Research of Oil and Gas Resource,' coordinated by the Chinese Academy of Engineering (CAE), with other experts participated. Another project is 'Research on China's Energy Development Strategy and Policy,' carried out by experts at the Development Research Centre (DRC) of the State Council and other research institutes in Beijing.

²⁶ It is noteworthy that before 2003, 'renewable energy' has not yet been emphasised in the

environmental-friendliness, including enhancing environmental capacity in energy policymaking (Chen et al., 2003; Hallding, Han, and Olsson, 2009; Zang, 2010: 567-568). Additionally, the experts also posed the need to establish a unified ministry with a higher administrative ranking to overcome the problem of bureaucratic competition to better manage China's energy policymaking (Chen et al., 2003; Tsang and Kolk, 2010: 189).

Since 2004, the ideas in the experts' reports on energy strategy have successively found their way into official climate mitigation policy (TCTCEO and INNETYU, 2004; Zang, 2010: 568). The importance of energy conservation and efficiency,²⁷ the development of renewable energy,²⁸ and the environmental-friendly doctrine have all been inscribed into China's official policy documents and the leaderships' rhetoric on national development.²⁹ The most significant decision made by Chinese policymakers is that China's 11th Five-Year-Plan (FYP) for 2006-2010 set a mandatory national target of "20% reduction in energy intensity, and 10% reduction of the pollutants compared to the 2005 level" (The State Council, 2006: Chapter 3).

4.4.3 Phase 3 (2007~2009): Climate policy is a repackage of energy, economic, and environmental strategies

The third phase of China's climate policy development is from 2007 to 2009, in which observers can witness a distinct change in China's response to climate change, internationally and domestically (Stensdal, 2014). From the transformation of China's governance structure and policy discourses of climate change, China's evolving climate policy could be understood as a repackaging of energy, economic, and environmental strategies. During this time, it entered the highest level of the Chinese political agenda (Qi and Wu, 2013).

government plans or policy documents. Therefore, it is almost the first time that renewable energy is noticed by top Chinese political leaders (Chen et al., 2003; Interviews 20 and 27).

²⁷ For instance, the NDRC and the National Energy Administration (NEA) issued the Top-1000 Enterprises Energy Conservation Project in 2006.

²⁸ The *Renewable Energy Law of the People's Republic of China* was approved in February 2005 and came into effect in January 2006. The *Renewable Energy Law* states that among other policy goals, "15 percent of all energy is to come from renewable sources by 2020." This law and related implementation regulations have given momentum to China's renewable-energy sector (Heggelund, Andresen, and Buan, 2010: 236).

²⁹ One significant example is that the slogan 'building a resource-efficient and environment-friendly society' has been promoted during the Hu-Wen administration (Hallding, Han, and Olsson, 2009).

4.4.3.1 Climate change was elevated to the top of the Chinese political agenda

In 2007, the Chinese government reorganised and elevated the NCGCCS into the ‘National Leading Group for Addressing Climate Change and Energy Conservation and Emissions Reduction’ (NLGACCECER) (國家應對氣候變化及節能減排工作領導小組 *guojia yingdui qihou bianhua ji jieneng jian pai gongzuo lingdao xiaozu*). The central government expanded the Leading Group to include twenty-nine ministries, agencies, and research institutes. Then-Premier Wen Jiabao served as Director of the Leading Group, which indicates that the climate change issue had entered the highest level of the Chinese political agenda (Zang, 2010; Conrad, 2010; Qi and Wu, 2013).

The institutional design of the NLGACCECER reflects not only the feature of ‘one institution, two names’ (一個機構，兩塊牌子 *yige jigou, liang kuai paizi*) in Chinese politics but also the top political leaderships’ emphasis on climate change mitigation policies—energy conservation and emissions reduction. In practice, the NLGACCECER is usually called the ‘National Leading Group for Addressing Climate Change’ (NLGACC) (國家應對氣候變化領導小組 *guojia yingdui qihou bianhua lingdao xiaozu*) and the ‘State Council Leading Group on Energy Conservation and Emissions Reduction’ (SCLGECER) (國務院節能減排工作領導小組 *guowuyuan jieneng jian pai gongzuo lingdao xiaozu*). When attending international climate talks, Wen Jiabao acted as the head of the NLGACC; when hosting domestic conferences on energy conservation and emissions reduction, Wen served as the head of the SCLGECER (Interviews 10, 26, and 42).

Also, in 2007, the CMA established the National Expert Committee on Climate Change to assist the NLGACCECER. Composed of academicians and senior scholars in climate change science, energy, economy, policy, diplomacy, etc., the Expert Committee is primarily the most authoritative advisory body in China’s climate policy (Wübbecke, 2010; Williams, 2014; Interviews 10, 20, and 28).

4.4.3.2 Economic development departments take the lead

Among the members of the NLGACCECER, the NDRC is responsible for overall coordination and energy conservation. Emission reduction was left to the NEPA, later upgraded to the Ministry of Environmental Protection (MEP) as a cabinet-level ministry in the government reshuffle in 2008 (Conrad, 2010). Such organisational arrangements indicate “the dual role and significance given to climate change in both domestic (economic development) and international (environmental protection) arenas” (Qi and Wu, 2013: 304). However, even though the MEP had been promoted to full ministerial status since 2008, it did not acquire the real power to control either the industry sector or energy-related projects. Rather, it had a ‘co-control’ (協同控制 *xietong kongzhi*) strategy with monitoring and penalising the enterprises for excessive pollution to achieve the co-benefits of curbing GHG emissions

and pollutants (i.e., SO₂ and NO_x) (Pang and Zou, 2008). This implies that the environmental protection sector is still weak in China's climate policy (Marks, 2010; Tsang and Kolk, 2010; Interviews 03, 09, 12, 15, 20, and 43).

Meanwhile, the MOFA has taken action to enhance its policy impact in the NLGACCECER. First, it established a leading group within the ministry in charge of international talks on climate change, headed by then-Minister Yang Jiechi. Second, it established the Special Representative for Climate Change Negotiations, appointing Yu Qingtai as the first representative (CRNTT.com, 2007). This demonstrated China's active participation in international climate cooperation (Lewis, 2007: 158-159). From a domestic perspective, creating the position of a Special Representative also indicates the MOFA's effort to formalise and strengthen its power throughout the international climate negotiations and break through the NDRC's control (Conrad, 2010: 60-61).

Worth noting is that during the government restructuring in 2008, the low-ranking NDRC's Office of Climate Change (under the Department of Resource Conservation and Environmental Protection) was upgraded to the Department of Climate Change (DCC) to better develop and coordinate China's efforts at addressing climate change. Since then, the NDRC's DCC has played a critical role in the coordination of domestic policies, ensuring compliance with international treaties and facilitating international cooperation (Hofem and Heilmann, 2013: 209).

Thus, one can classify the central ministries involved in climate change-related affairs into different categories:

- NDRC: Responsible for macro-economic planning and development and energy policies;
- MOFA: In charge of climate change negotiations and foreign affairs, including protecting China's sovereignty and promoting China's national image;
- CMA: Takes the lead in scientific findings of climate change and China's participation in the work of the IPCC;
- MOST: Takes the lead in the deployment of scientific and technological actions on climate change; and
- MEP (NEPA): In charge of reducing pollutants.

4.4.3.3 GHG mitigation and energy policies as the core of domestic climate policy

Echoing the institutional reorganisation to link climate change to 'energy conservation and emissions reduction,' the PRC's first-ever policy document on climate change also demonstrated its discursive and policy transformation towards energy policies. On 4 June 2007, the NDRC released China's National Climate Change Programme (CNCCP), the PRC's

first formal text with ‘climate change’ in the title (NDRC, 2007 (a)).³⁰ From the main theme of the CNCCP, one can understand how the central government framed China’s climate policy as an energy policy (Hallding, Han, and Olsson, 2009; Zang, 2010). First, while twenty-four pages cover five aspects (GHG mitigation, adaptation, climate change science and technology, public awareness on climate change, and institutions and mechanisms) of China’s climate policy up to 2010, GHG mitigation accounts for fifteen pages. Second, while there are six key areas of China’s endeavours on GHG mitigation,³¹ ten pages detail the two strategies of ‘energy production and energy conversion’ and ‘improving energy efficiency and energy conservation.’ The other four areas only account for four and a half pages in the CNCCP (NDRC, 2007 (a)).

In addition to the CNCCP, the Chinese government has intensively promulgated energy-related policy documents between 2007 and 2008: the *Comprehensive Working Program for Energy Conservation and Emission Reduction in the 11th Five-Year Plan Period* (April 2007), the *11th Five-Year Plan on Energy Development* (April 2007), the *Medium and Long-Term Development Plan for Renewable Energy* (September 2007), the *11th Five-Year Plan on Renewable Energy Development* (March 2008), and the *Energy Conservation Law* was revised in October 2007 and came into force in April 2008. Therefore, many scholars argued that Chinese political leaders essentially equate climate change with ‘energy policy’ (Hallding, Han, Olsson, 2009; Lewis et al., 2010; Tsang and Kolk, 2010; Zang, 2010; Balme, 2011; Liu, 2013).

Furthermore, instead of highlighting ‘climate change mitigation’ or ‘GHG emissions reduction,’ the Chinese government primarily laid stress on ‘energy conservation and emissions reduction’ and ‘energy efficiency improvement’ (提升能效 *tisheng nengxiao*) when speaking to the Chinese audience domestically (Interviews 20, 38, 45, 46, and 64). From mid-2007 onwards, provincial governments established either a ‘Leading Group on Energy Conservation, Emissions Reduction, and Climate Change’ or a ‘Leading Group on Energy Conservation and Emissions Reduction’ (Qi et al., 2008; Tsang and Kolk, 2010). As Tsang and Kolk (2010: 193) pointed out, “provinces that did not include the term ‘climate change’ in the name of the leading group nevertheless stated that their responsibility includes climate change.”

Before the Copenhagen Climate Change Conference was held in December 2009, China announced that it would cut CO₂ emissions in relation to economic growth by 40% and 45% by 2020 compared with its 2005 level (see Chapter 6). Yet, concerning China’s

³⁰ Before 2007, climate change has never been a standalone issue on the national policy agenda (Tsang and Kolk, 2010; Zang, 2010).

³¹ The six areas are (1) energy production and conversion, (2) improving energy efficiency and energy conservation, (3) industrial process, (4) agriculture, (5) forestry, and (6) waste management.

local response to climate change, there were gaps between domestic policies and China's diplomatic position due to a lack of information and publicity (Pang and Zou, 2008: 74) and the disconnection between international negotiations and local climate governance (Qi et al., 2008; Interviews 03, 04, 12, 17, and 26). During this period, the Chinese public did not follow the current international negotiations, and domestic awareness was relatively weak. Local government officials and Party cadres had shown little interest in the climate change issue and paid little attention to the proceedings of international climate negotiations (Pang and Zou, 2008: 74; Tsang and Kolk, 2010; Interviews 14, 20, 22, 38, 45, and 46).

4.4.4 Phase 4 (2010~2019): China's climate policy includes local pilot programmes and experimentation

The fourth phase of China's climate policy development is from 2010 to 2019. At the global level, China had gradually evolved from a passive participant to a proactive player involved in international climate talks in the post-Kyoto period (Chen, 2017: 360). Domestically, the central government launched a series of pilot programmes (particularly the low-carbon city pilot and the carbon trading pilot) mandating local governments to experiment with initiatives for so-called 'low-carbon development' (LCD). It seems evident that China had not only made the step from international negotiations moving toward domestic action, it had also stepped from central planning to local implementation.

In November 2014, China vowed to "peak its CO₂ emissions around 2030, with the intention to try to peak early" (The White House, 2014: Section 1) in the US-China Jointly Announcement. Shortly thereafter, in 2015 China's submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC (NDRC, 2015) to detail its commitment to tackling climate change ahead of the Paris Climate Change Conference. Meanwhile, Chinese political leaders stressed the importance of curbing climate change and China's 'intrinsic motivation' to do so, as President Xi Jinping claimed that, "It is not that anyone asks us to do it, but we ourselves take the initiative to do it" (quoted from Chen, 2017: 361). Compared with its unbending stance as a hardliner before 2009, China signalled that it would like to be a leader in global climate politics (Interviews 11, 12, 13, and 14).

Looking at the domestic level, the Chinese central government released a series of policy targets and pilot programmes for climate change mitigation. First, a 17% reduction target for carbon intensity was set in the 12th Five-Year Plan (FYP) period (2011-2015), and then delegated to the provincial governments to achieve it. Since 2010, several low-carbon development-related policy programmes have been promulgated by the NDRC, to meet China's international commitment but also domestic development needs. Since July 2010, the NDRC has launched three batches of the low-carbon province and city (LCPC) pilot

initiatives; a total of eighty-seven low-carbon areas were approved, including six provinces and eighty-one cities (see *Table 4.2*).

Table 4.2 Three batches of low-carbon province and city pilot programmes since 2010

The first batch of the low-carbon province and city pilot (2010)				
Provinces	Cities			
Guangdong	Baoding	Shenzhen		
Hubei	Chongqing	Tianjin		
Liaoning	Guiyang	Xiamen		
Shanxi	Hangzhou			
Yunan	Nanchang			
The second batch of the low-carbon province and city pilot (2012)				
Provinces	Cities			
Hainan	Beijing	Jilin	Qingdao	Zhenjiang
	Chizhou	Jinchang	Qinghuangdao	Zunyi
	Daxinganling	Jincheng	Shanghai	
	Ganzhou	Jingdezhen	Shijizhuang	
	Guangyuan	Jiyuan	Suzhou	
	Guilin	Kunming	Wuhan	
	Huai'an	Nanping	Wulumuqi	
	Hulunbuir	Ningbo	Yan'an	
The third batch of the low-carbon city pilot (2017)				
Provinces	Cities			
	Ankang	Fuzhou	Liuzhou	Xiangtan
	Changji	Chongqingcheng	Nanjing	Xining
	Changsha	Hefei	Pu'er	Xuancheng
	Changyang	Hetian	Qiongzong	Xunke
	Changzhou	Huaibei	Quzhou	Yantai
	Chaoyang	Huangshan	Sanming	Yinchuan
	Chengdu	Ji'an	Sanya	Yuxi
	Chenzhou	Jiaxing	Shenyang	Yining
	Dalian	Jinan	Weifang	Zhongshan
	Diyishi'alaer	Jinhua	Wuhai	Zhuzhou
	Dunhuang	Lanzhou	Wuzhong	

Source: Compiled from NDRC (2010 (b), 2013); MEE (2018 (a)).

Many interviewees for this research who had engaged in or observed the application and review process of the three batches of the LCPC pilot indicated that the selection of pilot areas shifted from political decision-making to scientific decision-making (Interviews 04, 06, 11, 23, 27, 34, 39, and 47).

Another significant policy change is China's decision to trial the pilot emissions trading scheme (ETS) (see Section 6.5). In October 2011, the NDRC approved two provinces (Guangdong and Hubei) and five cities (Beijing, Tianjin, Shanghai, Chongqing, and Shenzhen) to implement the pilot ETS with the intention to build a nationwide carbon market by the end of the 12th FYP period (2015).

After a few years of preparation, the NDRC launched the Construction Plan for National Carbon Emissions Trading Market (Power Sector) in December 2017. The Construction Plan proposed establishing a nationwide carbon market through three stages: (1) infrastructure development, (2) trial operation, and (3) completion of construction. Although China aimed to build a carbon market that covers at least six key sectors (iron and steel, power generation, chemicals, building materials, paper-making, and nonferrous metals), only the power sector was included in the ETS at the initial stage of its establishment (NDRC, 2017). While Chapter 6 discusses the SPI and the decision-making process of launching the pilot ETS, Chapter 7 analyses the SPI in the pilot ETS in Guangdong Province.

Lastly, the Chinese government's restructuring in 2018 presented a distinctive change in China's climate policy. In April 2018, the Ministry of Environmental Protection (MEP) was reorganised as the Ministry of Ecology and Environment (MEE). The NDRC's Department of Climate Change (DCC) and its think tank, the National Centre for Climate Change Strategy and International Cooperation (NCSC), were transferred from the NDRC to the MEE. The government restructuring indicates the Chinese government's dual attempts. First, China seeks to resolve the long-standing problem of fragmentation of authority—while the MEP is responsible for regulating carbon monoxide (CO), control of carbon dioxide (CO₂) falls under the NDRC (Ma and Liu, 2018). Second, proposing the concept of ecological civilisation (EC)³² as the core doctrine of its global and national development strategy, China attempts to situate climate change with environmental governance and pollution control under the EC discourse (Zou and Cui, 2019). As the Director of the DCC,

³² Ecological civilisation is a set of values and concepts and can be viewed as “the making of a Chinese concept of sustainable development” (Goron, 2018: 41). It is not only a green rhetoric to promote environmental governance but also a political discourse to engage in the global discussion of sustainability, development, capitalism, and democracy (Goron, 2018; Hanson, 2019). It was put forward by then-President Hu Jintao in 2007, stressed by Xi Jinping in 2013, and was written into the Chinese constitution in 2018 (Hanson, 2019).

Li Gao, explains, the government restructuring should not be considered a downgrade of climate governance, but China's institution building efforts to enhance the capacity of overall resource conservation and utilisation and ecological environment protection (MEE, 2018 (b)).

4.4.5 Phase 5 (2020~): China is on the road to operating the ETS to reach carbon peak before 2030 and carbon neutrality by 2060

While the world is suffering from COVID-19 since 2020, China has shown its intentions to transit to green and low-carbon development by updating policies, particularly the establishment of the long-awaited carbon trading market.

Speaking via video to the 75th session of the UN General Assembly in New York on 22 September 2020, President Xi Jinping announced that China aims to reach its carbon peak *before 2030*³³ and achieve carbon neutrality by 2060 (China Daily, 2020). Additionally, Xi said that "China will scale up its intended Nationally Determined Contributions (NDC) by adopting more vigorous policies and measures" (China Daily, 2020: 1). China will cut its carbon emissions per unit of GDP, or carbon intensity, by more than 65% from 2005 levels by 2030 (The Reuters, 2019).

Soon after releasing the ambitious goal for tackling climate change, the MEE promulgated the 'Administrative Measure for Carbon Emissions Trading (Trial)' in December 2020 (MEE, 2021). On 1 February 2021, the carbon emissions trading scheme (ETS) was launched to help meet the carbon neutrality pledge by 2060 (CGTN, 2021). The ETS will cover 2,267 power plants, which contributed nearly 40 per cent to China's annual CO₂ emissions in 2020 (CGTN, 2021). According to the Administrative Measure (Trial), enterprises in a specific sector emitting a minimum of 26,000 tonnes of carbon equivalent would be allowed to enter the carbon trading market (MEE, 2021; CGTN, 2021).

Lastly, the 14th Five-Year Plan (FYP), which covers 2021-2025, has set an 18% reduction target for carbon intensity and a 13.5% reduction target for energy intensity reduction (The State Council, 2021). Although the COVID-19 outbreak in spring 2020 brought a decline in China's GHG emissions, its energy consumption and GHG emissions have risen again since then (Heggelund, 2021: 10).

4.5 Conclusions

This chapter presented the characteristics of China's political system, four features of China's policy process, and the five phases of China's climate policy development since the

³³ Previously, China's goal is to peak its carbon emissions *around 2030*.

1990s. China's climate policy in different periods (before 1997, 1998~2006, 2007~2009, 2010~2019, and 2020~) can be explained by four features. First, the fragmented authority and bureaucratic competition at the national level helps explain China's institutional and discursive transformation of climate change. Although climate change was identified as a scientific and environmental issue in the early 1990s, it has been framed as an economic and energy issue since the early 2000s. Behind the transformation is the fact that the NDRC (economic development sector) has taken over the CMA and NEPA in the leading group. Second, Chinese policymakers' concentration on 'energy conservation and improving energy efficiency' can also be explained by their emphasis on scientific decision-making since it is the experts that proposed to lay stress on energy-related policies. Third, the use of policy pilots before scaling up shows the ways in which the Chinese central government mandate local governments to trial innovative mechanisms and measures, particularly the low-carbon province and city programme and the pilot ETS. Lastly, the centre-local relations and the gaps between central policymaking and local implementation point out the need to study China's climate policy on the ground (see Chapters 6, 7, 8, and 9).