

The Politics of Climate Policy in China: Interests, Institutions and Ideas

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Abstract:

Over the past five years, China has adopted increasingly ambitious reforms aimed at mitigating its greenhouse gases (GHGs). These reforms stand in sharp contrast to the view that China would struggle to craft a comprehensive climate policy due to conflicts with national interests and fragmented policymaking institutions. This paper argues that this view pays insufficient attention to 1) how domestic institutional reforms influence national interests; and 2) how the diffusion of ideas can strengthen interactions between institutions and interests. This paper attributes China recent reforms to these two omitted dynamics. It demonstrates that institutional reforms that granted the National Development and Reform Commission (NDRC) the climate portfolio and forged linkages between subnational promotional incentives and energy efficiency targets helped China recognize climate change can complement its national interests. It also contends that leadership embrace of the concept of scientific development and repeated interactions in climate-related fora enabled these reforms by demonstrating mutually reinforcing synergies between climate change and development goals. Thanks to the interplay between interests, institutions and ideas, the paper argues, China has moved from a fragmented and reactive negotiating position to a more coherent and proactive climate policy.

Keywords: China's Climate Policy; The Future Climate Change Regime; Fragmented Authoritarianism; Realism; Learning Theory

The views expressed in this working paper are those of the authors and do not necessarily represent those of IGES. Working papers describe research in progress by the authors and are published to elicit comments and to further debate.

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1. Introduction

When China surpassed the United States as the world's largest emitter of greenhouse gases (GHGs) in 2007, many questioned "whether the climate change war could be won" (BBC, 2007). At the time, the prospects for victory looked bleak because China was generating a growing share of its GHG emissions from energy-intensive industries and had made few indications that it would alter its growth trajectory. But over the last half decade, China has taken a series of increasingly ambitious steps to allay those concerns. In 2006, it introduced targets that aimed to reduce energy-intensity of economic activity by 20% between 2006 and 2010 as part of its 11th Five Year Plan. In 2009, it pledged a carbon-intensity target of 40-45% below 2005 levels by 2020 just before the 15th Conference of the Parties (COP15) to the United Nations Framework Convention on Climate Change (UNFCCC). In 2010, it included a 17% carbon intensity target in its 12th Five-Year Plan. And just this year it indicated it was considering a total energy cap of 4.1 billion tonnes of coal equivalent (TCE) by 2015 that could form the basis for a low carbon development plan. This is a far more defined and proactive position than most observers thought plausible in 2007.

This policy shift not only runs counter to popular expectations but also falls outside predictions from the dominant theories on policymaking in the international relations and China studies literature. The international relations literature holds that states base decisions on *rational* reading of their national interests, leading to coherent and easy-to-implement policy solutions. The Chinese studies literature holds that states craft decisions by cobbling together competing *rationales* from different agencies, leading to incoherent and difficult-to-implement policy responses. The paper argues that, though these approaches anticipate contrasting outcomes, together they can help explain how China has moved from a less to a more coherent climate policy. In particular, the paper shows that as China has become more deeply engaged in international climate policy processes, it has adopted national institutional reforms that have helped reach a consensus on where

it its interests lie and how they should be pursued. This recognition has, in turn, not only further eased its integration into the international processes but helped adjust perceptions of the costs and benefits of climate change policy, enabling many of the above reforms.

The paper traces the interplay between interests, institutions, and ideas across several *cases* that can help illustrate this argument. First, energy efficiency and low carbon development moved up the policy agenda as Chinese leaders mainstreamed climate concerns into energy policy. Second, the climate-energy tie was strengthened when two energy and economic commissions were merged together to create a National Development and Reform Commission (NDRC) that was then given administrative responsibilities for the climate portfolio. Third, the performance in energy efficiency achievement was tightly linked to promotions for local government officials, helping to overcome administrative fragmentation and related implementation problems. Fourth, repeated interactions between Chinese decision makers at multiple levels in a range of climate-related fora changed perceptions of the benefits and costs of climate policy. Thanks to the combined effect of these dynamics, the paper argues, China has moved from a position that was fragmented and reactive to one that was more calculating and proactive.

The remainder of the paper is divided into three sections. The next section provides an overview of key theoretical approaches. The third section demonstrates how unifying these approaches can elucidate the drivers of policy change. A concluding section remarks on the broader implications of the case of climate change for emerging powers besides China and for China in other policy areas besides climate change.

2. Theoretical framework: Interests, Institutions, and Ideas

2.1 Interest-based Explanation

The most frequently cited approach to international

climate negotiations is a rationalist, interest-based explanation. This approach assumes that states are unitary actors motivated chiefly by the desire to maximize their self-interests in an anarchic international system. States, in turn, evaluate available policy alternatives with a view toward aligning foreign policy with their “national interests”. In the case of China, its “national interests” can be roughly ordered as “first, protecting the basic Chinese system and its national security; second, national sovereignty and territorial integrity; and third, continued economic and social stability and development”.³ Economic development, poverty alleviation and social stability sit above climate change on the foreign policy agenda (Heggelund, Andresen et al. 2010). Moreover, because an international GHG mitigation commitment can constrain China’s sovereignty, climate policy may even run counter to core interests (Perlack, Russell et al. 1993; Beuermann 1997). Thus, at the most elemental level the interest-based approach suggests China would reject mitigation commitments and climate actions out of hand.

A modified version of the interest-based explanation questions whether it is accurate to assume that climate change lies outside national interest. Rather, this modified view suggests that interests are not immutable constructs but the product of a calculated weighing of costs and benefits (Sprinz and Vaahtoranta 1994; Rowlands 1995; Sprinz and Weiß 2001; Barrett 2003). For instance, states might assess negative impacts of climate change against the costs of contributing to the solution, becoming 1) “pushers” with high vulnerability and low abatement costs; 2) “draggers” with low vulnerability and high abatement costs; 3) “intermediaries” with high vulnerability and high abatement costs; and 4) “bystanders” with low vulnerability and low abatement costs (Sprinz and Vaahtoranta 1994). Above and beyond these immediate climate benefits, there may also be other non-climate costs and benefits from a more active position. For instance, an international climate regime could provide financial

support and technologies as well as deliver less quantifiable reputational gains. Accordingly, it would be expected that behind China’s policy shift occurred due to changes in variables such as the incentives for engaging in negotiations over the future climate change regime.

2.2 Domestic Institution-based Explanation

Unlike the rationalist, interest-based explanation that regards the state as a unitary actor pursuing core interests, a domestic institutional explanation opens up the “black box” of the state to examine the role of domestic institutions. The state is no longer a monolithic leviathan with a uniform view of what is rationale but an amalgam of agencies each jockeying to advance their own rationales for fixing a problem. Hence bureaucratic organizations put forward positions to achieve some of the following: 1) to defend the essential mission or purpose of the bureaucracy; 2) to defend/expand the bureaucratic “turf”; 3) to maintain organisational autonomy; 4) to maintain morale within the organization (which serves to make sure the organisation functions well); and 5) to make sure that the organisational budget grows (Halperin and Kanter 1973). Because these goals are often mutually exclusive, political elites and other top-level decision makers encounter difficulties in achieving cross-agency agreements, implementing domestic policies, and delivering on international commitments.

The most visible example illustrating this approach in China, the Three Gorges (三峡, *sanxia*) dam project, involved decades of back-and-forth among *central* government agencies about the dam’s height, location, primary operating function, and funding responsibilities (Lieberthal and Lampton 1992). More recently, the approach has been used on environmental issues where the divergent interests of *central* and *local* agencies have resulted in loosely worded policies and resulting implementation gaps (Lieberthal and Lampton 1992; Lieberthal and Oksenberg 1998; Oksenberg and Economy 1998; Jahiel 2000; Ohshita and Ortolano 2003). For instance, some have maintained that institutional

³ A statement by Dai Bingguo (戴秉国), State Councillor and the presumed director of the Foreign Affairs Leading Group Office, 中国新闻网 (China News Services) 29 July 2009.

fragmentation and a lack of sufficient authority, combined with prevailing local interests in economic development, constrained the implementation of domestic environment regulations (Jahiel 2000), international cooperation on coal technology (Ohshita and Ortolano 2006), and energy intensity improvement during the early years of the 11th Five-Year Plan (Rosen and Houser 2007).

2.3 Idea-based Explanation: Learning and Identity

Yet a third approach to explaining policy shifts emphasizes ideas. The core insight of this ideational approach is that policy decisions do not form in a vacuum but are a product of the social environment in which they are created. The premise underlying this approach is that decision-makers often engage in policymaking process without well-defined preferences and perfect information. As such, policy evolves and changes through an iterative learning process, wherein perceptions of the problem are continually updated and adjusted to account for new information (Underdal 1998). Learning can take place from the acquisition of data about the effects of climate change or enhanced understanding of the technical feasibility of deviating from business-as-usual growth patterns. It can also occur through formal participation in international climate negotiations or less formal experiences with climate change market mechanisms. Both types of information and processes condition actors' perceptions of a problem and options available to manage it. That is, this learning could provide "road maps that increase actors' clarity about goals or ends-means relationships" or offer "focal points that define cooperative solutions" (Goldstein and Keohane 1993).

Taking the learning model a step further, a constructivist approach suggest that learning may also help form the very interests that are treated as a given in the interest-based and institution-based approaches (Haas 1990; Wendt 1999). To illustrate with a relevant example, social interactions helped bring forward China's growing interests in acting as

an emerging power. For instance, after a 2009 Hu Jintao (胡锦涛) speech that suggested China should begin to shift from a foreign policy that laid low and avoided leadership positions toward one where it proactively contributed to international issues (Jakobson and Knox 2010), many Chinese scholars publicly encouraged China to take a more active stance on global warming.⁴ This approach further underlines that an identity forming process is intersubjective: it is constructed by not only China seeking to define its own image but also the way other countries view China. Thus it will matter more and more what other countries think about China. Some cynics may argue that attempts to improve an image are at best symbolic politics and at worst misleading chicanery. However, what is important is that becoming engaged in processes for chiefly symbolical purposes can update and adjust substantive beliefs about the costs and benefits of the issues discussed in that process—and generate real world results.

2.4 Puzzles

Each of these approaches could relate to China's climate policy. For instance, the rational, interest-based approach would suggest that as climate policy became more closely aligned with national interest, it would be more likely that China would deny attempts to pose restrictions on its national sovereignty in the form of an international climate change agreement. The domestic institutions explanation would suggest that China would take time to develop an approach to climate change and that approach would be difficult to implement because it would be riddled with "aspirational ambiguities and doctrinal infirmities" (Alford and Shen 1998). The learning approach would argue that China's national interests (and the interests of key bureaucracies) would respond to broader changes in the surrounding ideational environment and shift with greater engagement in the formal and informal

⁴ For example, 娜娜 (Le Yan na), 芳 (Chen Fang) 中国“国际人”十大前瞻 (Ten major prospects for China's "international popularity" 球 (Globe) no.19 2009; 媛 (Deng Yuan) “外交略:中国可以有更多的国际担当 (Foreign Strategies: China could take more international responsibilities)” 国先 (International Herald Leader) 30 December 2009.

processes that are part of that environment.

How do the predictions from these models hold up to reality? The next section traces that reality, focusing on the significant shift in climate policy over the past half decade and its underlying causes. To foreshadow the main argument, the paper contends that a burgeoning legitimacy crisis in the Chinese Communist Parties (CCP) and energy security concerns (both of which were rooted in economic-first development pathway) raised energy efficiency and climate change on the agenda of the Chinese top leadership in the early 2000s. A series of domestic institutional reforms in the mid-2000s made it easier for China to strengthen a climate-energy tie, as well as to formulate and implement a coherent climate policy. This policy eased China's integration into climate negotiations and was further conditioned by learning process wherein decision-makers discovered there was more to gain than to lose from a coherent and proactive climate policy.

3. China's Changing Climate Change Policy: Explaining the Policy Shift

To demonstrate the empirical support for this argument, it is important to outline some of the key developments in China's climate policy preceding the shifts that are the focal point of the paper. The story of China's climate policy begins in the early 1990s in the lead up to negotiations over the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992. The UNCED meeting set the stage for negotiations over the United Nations Framework Convention on Climate Change (UNFCCC), which, along with its Kyoto Protocol, has been the chief agreement governing international climate change for the past two decades.

During this period, the responsibility for climate change in China fell under the State Meteorological Agency (SMA), suggesting that it was seen first and foremost a scientific issue. Further underlining its scientific underpinning was the significant

involvement from the Ministry of Science and Technology (MOST) for technical issues and The State Environmental Protection Agency (SEPA) for environmental issues. Yet when it came to international negotiations over the UNFCCC, the Ministry of Foreign Affairs (MoFA) was brought in and was less willing to work constructively on the climate issue. Each of these agencies had representation on a climate negotiating team that was organized in preparation for the UNCED.

From early on, it was clear that these bureaucracies differed in their beliefs about the cause and consequences of climate change. This disagreement manifested itself in a scientific debate, an energy debate, and a political debate (Economy 1997). In each of these debates, the central issue was whether or not acceding to a climate agreement would slow economic growth. While some Chinese officials below the highest levels of decision making saw complementarities between climate and development, ultimately this support was not enough to offset the opposition of MOFA and key line agencies that believed that climate actions would harm China's economy (Economy 1997). Hence during the 1992 negotiations over the UNFCCC, China argued that climate change was the responsibility of the developed countries and therefore must be dealt with chiefly by developed countries. The dominance of coal in China's energy structure reinforced this position. Beliefs about the developed world's historic responsibility for climate change and concerns over national sovereignty similarly helped to galvanize opposition to active engagement in climate negotiations. Accordingly, China refused to accept any international commitments to mitigate climate change. This would in fact be China's position for much of the past two decades. By the late 1990s, however, what was loosely connected set of agencies looking from their own perspective at climate change began to change to a more coherent group of institutions advancing a more proactive position. The remainder of the paper traces how and why China moved in this direction.

3.1 Aligning climate change concerns with CCP's core interests

By looking at the role of ideas and their influence on national interests, this section examines why and how Chinese leaders have advocated for a more active climate policy. For the Chinese Government, the overriding concern is the maintenance of the Chinese Communist Party's (CCP) rule. Economic growth, poverty elimination, and social stability are all critical to maintaining that rule: rapid economic growth creates jobs, alleviates poverty, improves living standards, and thereby strengthens public support for the CCP. Since the free-market reforms of the late 1970s, export-oriented industrialization served as the engine that would help support this goal. However, over the last decade, there have been a number of unintended consequences of fast-paced export-oriented growth. These include widening income disparities that fuelled a steady increase in social unrest⁵. They also include a raft of serious environmental problems that provided an outlet for these rising social tensions.

When President Hu Jintao and Premier Wen Jiabao (温家宝) took power in late 2002, they were all too aware of the potentially volatile mix of regional disparities, resource scarcities, and environmental stresses confronting China. It was hence decided to shift the focus of the national development policy from single-minded economic growth to a broader concept of development-social harmony (Fewsmith 2008). Toward this end, in January 2004 Hu Jintao introduced the Scientific Development Concept referring to "comprehensive, coordinated, and sustainable development" (*Renmin Ribao* (人民日报), 12 January 2004). As is often the case in China, the National People's Congress adopted the concept as a new guideline for socio-economic development in March 2004. At the Central Economic Work Conference of December 2004, an annual event that set major economic strategy and policy for the coming year, Chinese leaders decided to set energy and resources saving as one of the targets that would

embody the Scientific Development Concept (*Xinhua News Agency* (新华网), 5 December 2004). The concept was also incorporated in the 11th Five-Year Plan (2006-2010) in 2005 and included in the Scientific Development Concept in its revised Party constitution in October of 2007.

On the surface, the Scientific Development Concept was a practical policy response to deepening crisis of faith in China's economic-first development strategy. It was a deliberately broader formulation that encompassed social and ecological dimensions of development and complemented that reframing with the international language of "sustainability." On a deeper level, however, the concept could be seen as "broader reaction to perceived challenges to the legitimacy of CCP rule" (Holbig 2009). In particular, in the domestic context, the "scientific" nature of the concept was emphasised, thereby indicating the CCP's decision to formulate and implement a strategy to tackle perceived problems from growth. Furthermore, the Scientific Development Concept was associated with the Five Coordinations that sought to balance disparities between urban and rural areas, coastal and inland regions, economic and social aspects, human society and natural systems, and domestic issues and openness of China to the outside world. Such coordination was expected to follow in a top-down manner and be led by the CCP. Thus, the Scientific Development Concept not only pointed the way to sustainable development in China, but also offered a normative justification for CCP playing the lead role in this process.

Importantly for the paper's main argument, the Scientific Development concept not only established a link between environmental goals and political legitimacy, it created conditions ripe for energy efficiency and climate policy reforms. As mentioned previously, the 11th Five-Year Plan adopted the Scientific Development Concept. Having established this as a norm, the Hu-Wen administration was able to make strong commitment to tackle energy conservation and environment problems. The 11th Five-Year Plan featured compulsory targets to reduce energy intensity and pollution from their 2005 levels by 20% and 10% respectively. Other similarly

⁵ As of 2009, about 150 million people lived with a daily average income/expenditure of 1.25 US dollars (the poverty line defined by the World Bank) (*The China Daily*, 28 October 2010).

directed targets, albeit not compulsory, included increasing the share of renewable energy in the energy mix to 10% from 7% by 2010 and to 15% by 2020.

The timing of this shift was auspicious for other reasons related to climate change as well. The decision to devote additional attention to the Scientific Development Concept occurred around the same period that the Kyoto Protocol entered into force and discussions on a future climate regime beyond the Kyoto Protocol's first commitment period (2008-2012). Given the rapid increase in GHG emissions from China, international pressures for China to take more proactive actions to tackle climate change were only expected to grow. In the following years, the Chinese government published many reports on climate change policy reflecting its recognition of this attention (NDRC 2007a; NDRC 2007b). Some of these publications deliberately sought to target an international audience; many had their own internal logic.

One of such internal motivation involved the growing awareness of the linkage between the perceived vulnerability to the negative impacts of climate change and its political implications. Although initial research in the 1990s showed that the aggregate impacts of climate change on China could be benign, by the mid-2000s many studies (including those conducted by Chinese experts) found the impacts on China were more negative than positive (Lin and Zou 2006; Stern 2006; IPCC 2007; NDRC 2007a). Moreover, the Chinese leadership became more concerned about the distribution of climate impacts across the country, and, coming back to a familiar theme, about their influence on political stability (Wiener 2008). Changes in distribution, frequency and magnitude of precipitation, storms, droughts and flooding, and sea-level rise along the coasts, could cause severe strains on Chinese society, and climate change could exacerbate social tensions and raise the risk of political upheaval. With their active involvement, tackling climate change fit well with the Scientific Development Concept and its ultimate goal of legitimizing the CCP's rule.

Furthermore, there was not only growing awareness of the costs of climate change but the benefits of a climate policy. In the context of climate change debate in China, the idea of low-carbon development began to gain currency. Low carbon development offered a way to solve resource, energy, and environmental challenges at low or even negative costs (Hallding, Han et al. 2009). It also dovetailed with another features of the Scientific Development Concept that called for making China into an innovation society. An innovation society was seen as a prerequisite for maintaining competitiveness in global marketplace. In practice, this meant that the Chinese leadership sought to move the economy from low-end assembly industries toward higher indigenous technology and higher value-added products; otherwise, it would be locked into the most polluting and least profitable segment of the international value chain (Lieberthal and Sandalow 2008). It is not surprising then that when the standing committee of the 11th National People's Congress adopted the "National People's Congress Standing Committee Resolution on Actively Tackling Climate Change" in August 2009 as the first resolution concerning climate change that it highlighted "low-carbon economy" (Li 2009). Low carbon development therefore matched nicely with the intention of making China a global player in innovative industries (Hallding, Han et al. 2009; Bradley 2010; Busby 2010).

In sum, the mainstreaming of energy efficiency and climate change concerns into national development policy started with the introduction of the Scientific Development Concept, and was advanced with the adoption of the energy intensity target in the 11th Five-Year Plan and related reforms. The Scientific Development Concept provided normative justification for a development policy that sought to reduce energy and carbon (other pollution) intensities (Hallding, Han et al. 2009). One may argue that the idea of the Scientific Development Concept is so inclusive that it is possible to justify any action. However, it should be noted Hu Jintao introduced the concept to tackle the perceived crisis in the CCP's legitimacy in the early 2000s, Thus, mainstreaming energy efficiency and climate

concerns into development plans and closely aligned with a core interest of the CCP.

3.2 Domestic institutional reforms:

Establishing an energy-climate tie

In accordance with the process through which energy efficiency and climate change concerns were set in the China's top leadership's agenda, reforms to national institutions moved in the same direction of ideas. Perhaps the most important of these reforms was the decision to create the National Development and Reform Commission (NDRC) out of the two key energy and economic commissions and give it the climate portfolio. It is important to not only describe this process, but also provide explanation of why key institutions were established and handed important responsibilities that strengthened the energy-climate tie.

After nearly two decades of China's free market reforms, there was a growing effort to deepen pro-market policy changes that had slowed in the wake of the 1989 Tiananmen Square Incident when conservative elements of the leadership gained the upper hand in policy debates. The initial signs for this deepening came from Deng Xiaoping's 1992 southern tour (*nanxun*), a symbolic visit to the more open regions in China Southeastern coast that was meant to reinvigorate pro-market reforms. As the reforms progressed, there was complementary effort to reorganize and streamline the administrative apparatus that until then was chiefly responsible for China's planned economy. This reorganization saw a number of organizational reshufflings with implications for climate policy.

The most important of these reorganizing reforms involved the State Planning Commission (SPC), the commission that once controlled nearly every aspect of planned economy. In 1998, the SPC was renamed the State Development Planning Commission (SDPC) and began to shift the locus of its responsibilities from economic planner to economic regulator. For example, more authority over energy issues was delegated to China's state-owned companies as regulatory functions were split from

production and commercial operations. This new responsibility was consolidated in 2003 when the SDPC was merged with the State Council Office for Restructuring the Economic System (SCORES) and the State Development and State Economic Trade Commission (SETC) and renamed the National Development and Reform Commission (NDRC). The NDRC was the most visible of several newly created super ministries that consolidated myriad disperse functions. With the expanded role, the NDRC was tasked with the overall of design of China's national development plans as well as energy and climate policy.

A related development contributing to the NDRC's growing influence in the area of climate policy was the establishment of the National Coordination Committee on Climate Change (NCCCC). The NCCCC was founded to play a coordination role among government agencies in 1998. As mentioned previously, until that point climate change was treated as a scientific problem, and the SMA provided policy advice to the Chinese Government in international negotiations concerning the UNFCCC. When the NCCCC was established, however, the NDRC took the central stage in climate policy (Bjørkum, 2005). The NCCCC was headed by the Minister of the NDRC with its Vice Minister as Deputy Director. The NCCC's members came from 13 ministries related to climate change, and each ministry contributed one vice minister. This underlined that climate change problem was being moved from the realm of science policy to development policy; with that movement the need for close coordination with energy policy increased in lockstep.

A subsequent set of administrative reforms involved the establishment of a Climate Change Leading Group under the State Council. This fifteen member group was headed by Premier Wen Jiabao with representation from key bureaucracies, including the NDRC, MOFA, the Ministry of Finance and the Ministry of Commerce. The main tasks of the group were to research and formulate climate change strategy; advance climate change negotiating positions and cooperation; organize and implement

the State Council's emission reduction measures; bring together emissions reduction work under one agency; research and coordinate macro-policy; and coordinate on significant climate related problems.⁶ A climate change office (*qihou bianhua ju*) was also established within the NDRC to support work on climate change and serve as secretariat to the Climate Change Leading Group.

It merits emphasizing that the Climate Change Leading Group was different from the NCCCC in two significant ways. The first way involved the level of leadership and decision-making. While the NCCCC was headed by the Minister of the NDRC, the Leading Group was led by the Prime Minister. This gave a higher profile to the Leading Group. Second, while the main mission of the NCCCC was to coordinate government offices, the Leading Group aimed to integrate various measures and establish strategies and policies. There was no clearly defined role for the NCCCC to develop a comprehensive, integrated climate policy. On the other hand, the Leading Group was empowered to develop climate policy, in addition to the role of policy coordination. With regard to China's pledge to reduce CO₂ emissions per unit of GDP by 40-45% from the 2005 level by 2020 (mentioned as one of the key actions in the introduction), the Leading Group closely examined the draft prepared by the NDRC and submitted it to the State Council's executive meeting for approval⁷.

In sum, through the institutionalisation of policy coordination and policymaking on climate change, the NDRC expanded its influence, thereby strengthening the energy-climate tie. Many previous studies indicate that the increasing influence of a government agency with its main mission related to economic development and energy policy is one of the key factors impelling China to assume a more cautious position in international climate negotiations (Economy 1997; Hatch 2003; Bjørkum 2005; Hyung-Kwon and Yoon 2006). Here the argument is that leadership by a single government

agency had an advantage: the NDRC would go on to play a pivotal role in implementing domestic energy saving measures and establishing systems for monitoring and reporting the effects of these measures. That is, taking an international pledge to control carbon emissions through the establishment of the domestic implementation systems was important for ensuring the credibility of such a pledge. For domestic measures to be effectively implemented, however, it was essential for the NDRC have the cooperation of local governments that actually carried out the measures. The relation between central and local government agencies will be discussed in the next section.

3.3 Domestic institutional reforms: Changing the incentives

Since the early 1990s, a common refrain heard from analysts of China's environmental policy was that policy outputs looked ambitious on the surface but were rarely implemented with the same rigor. This assessment made sense because China's industries typically had more leverage than the environmental protection bureaus (*difang huanbao ju*) that were local affiliates of China's MEP. However, as will be shown in this section the implementation of energy policy has been a different story. In this case, local government officials were given the incentive to achieve local energy efficiency targets, thereby helping to overcome administrative fragmentation and related implementation slippage.

The background for these reforms was growing concerns over energy intensity figures that had improved steadily since the early stages of the post-Mao reform era. By the early 2000s, a significant increase in production in energy intensive industries (e.g., cement and steel) began to erode these gains. This reversal raised concerns among China's leadership who foresaw further difficulties for energy security. Indeed, in the early 2000s, the NDRC had begun to implement industrial policies for streamlining energy-intensive industries through, for example, closing down less efficient, small and medium-sized facilities. Due to administrative as

⁶ <http://qhs.ndrc.gov.cn/ldxz/>

⁷ Author's interview with a member of the Chinese delegation to the UNFCCC (July 12, 2010).

well as fiscal decentralisation, local governments became substantive policy-implementing bodies, tasked with carrying out many of the policies that would deliver public goods. With the growing autonomy, local governments often went about their business with little regard for the demands of the central government. In addition, because the growth of local economies directly resulted in an increase in tax revenues and influenced the incomes and promotion prospects of local government leaders, there were powerful incentives to promote the local economy and disregard the undesirable consequences of pro-growth policies. Under these conditions, despite efforts by the central government's NDRC to promote industrial rationalisation, there were few reasons to control companies at the local government level. It is also not surprising that local governments regularly protected polluting industries from central government intervention (Imai 2009).⁸ As a result, the NDRC (and its earlier incarnations) struggled to obtain the cooperation of the local governments in implementing industrial rationalisation policies that would have saved energy in the early 2000s (Rosen and Houser 2007).

This situation has nonetheless changed in recent years. The change is largely due to the creation of an incentive mechanism to promote energy-saving measures by the local governments and overcome local government's intransigence (Tamura 2011). In the 11th Five-Year Plan (2006 to 2010), adopted by the National People's Congress in 2006, an improvement by 20% reduction in energy intensity (energy consumption per unit of GDP) was set as a binding target. This target was not only important because it set ambitious goals that were subsequently delegated to sub-national officials; it was important because it was accompanied by reforms that held sub-national leaders accountable for progress toward

reaching said goals. More specifically, China has long had in place a system that evaluated officials on how well they achieved centrally set targets. In the Maoist era, the criteria for these targets were based on commitment to the CCP's ideology. In the early stages of the post-Mao era, the criteria were levels of development and foreign direct investment (Edin 2003). In the 11th Five-Year Plan, the same system was adapted to strengthen compliance with energy efficiency goals. While the linking of the evaluation system with the energy efficiency goals created some perverse incentives—on occasion sub-national officials cut off energy supplies from residential users to achieve the targets (*The Guardian*, 19 September 2010)—they are largely credited with efficiency gains that brought China very close to the 20% target (Guo and Zusman 2010).⁹

In short, before making the international pledge of carbon intensity target, the Chinese government managed to mitigate the perceived policy implementation problems that derived from the divergent interests of central and local governments. Though energy intensity and carbon intensity are not exactly same, the establishment of the incentive mechanism for local governments to improve energy intensity clearly gave the central government confidence in effectively implementing carbon intensity target as well.

3.4 Learning and Changing Perceptions of Climate Policy

While the above set of domestic reforms altered China's interest in climate policy, there were also learning processes through which decision-makers' knowledge of the costs and benefits of climate policy grew and became more refined. As discussed earlier, the learning process can take various forms. This section argues that an increasingly experienced set of experts in the Chinese delegation to climate negotiations were more inclined to look at the climate problem in terms of its costs and benefits rather than through the lens of a government agency.

⁸ For example, in the steel industry, although a regulation on the minimum volume for a blast furnace was introduced for new projects in 2003 and a policy to promote corporate integration and sectoral rationalisation was introduced in 2005, the construction of small blast furnaces continued and the entry of private companies into the steel sector did not stop. As a result, there was no sign that industrial concentration was about to increase (The number of firms in the steel sector in China was 3,551 in 2002 and that in 2006 was 6,959. See Rosen and House 2007). This tendency was also seen in the other energy-consuming sectors.

⁹ At the National People's Congress in March 2011, it was announced that energy intensity decreased by 19.06% in 2010, compared with the 2005 level.

Meanwhile, an even wider range of stakeholders was also being exposed to another illustration of these costs and benefits through China's involvement in the Kyoto Protocol's Clean Development Mechanism (CDM). Finally, just as elites were making the links between climate, energy, and the legitimacy of their rule, the leadership was also recognizing that having a position on climate change could lend credence to its image as an emerging power in the international community. In this case, elites became more aware of reputational benefits.

3.4.1 Growing presence of experts

Like most countries, every year China sends an official delegation to the COP meetings of the UNFCCC. This section focuses on the growing presence of experts in the Chinese delegation to those meetings. The term "expert" is used to apply to professionals who work with a university and/or

research institute with varying affiliations with government agencies. While experts cannot set policy, they can offer a different view on policy than government official. This is partially because they are outside the bureaucracy and partially because they have greater familiarity with technical skills needed to weigh the costs and benefits of policy. Thus, for instance, experts would include representatives from the research institute that had the greatest representation in the China delegation, the Energy Research Institute (ERI). ERI is a semi-autonomous appendage of the NDRC and has been responsible for publishing reports and low carbon energy models that led to China's 40-45% carbon intensity target. The experts also include professors and researchers from Tsinghua University who have even more autonomy than ERI and an equally impressive skill set.

Figure 1. Number of Chinese Representatives Attending COP 1-COP 16

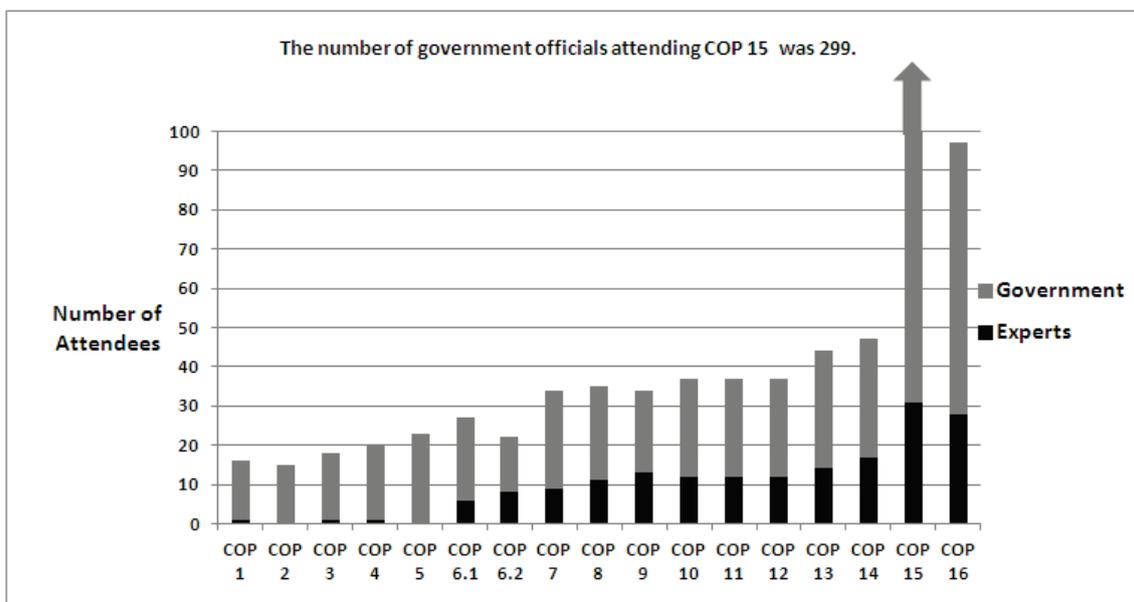


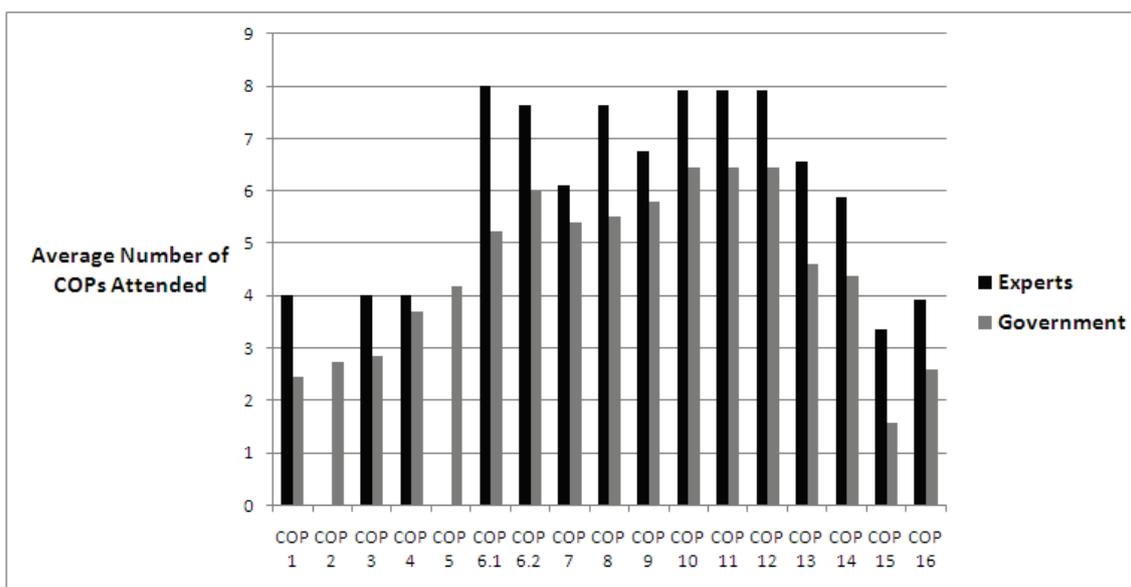
Figure 1 illustrates the number of representatives in China's COP delegation from COP 1 to COP 16. There have been several other discernible trends in

this data. First, the size of the Chinese delegation has grown steadily for much of this period, peaking at COP 15. The peak likely came in anticipation of what was supposed to be negotiation over a

comprehensive agreement at COP 15. Second, there has been a steady increase in the number of experts in the Chinese delegation. Beginning with COP 6.2, from 25% to 33% of China's delegation was made up of experts. The 31 experts attending COP 15 was the largest contingent of expertise to attend any of the COPs (though less than previous COPs in percentage terms). Third, the total number and

proportional representation of experts remained high in COP 16 at 28 experts, arguably reflecting the belief that Cancun COP would be important but not as important as COP 15. The key point from all of these observations is that as the stakes in the negotiations increased so too did the number of experts participating in the negotiations.

Figure 2. Average Number of COPs Attended by Experts and Government Officials



Note: The number of COPs attended includes meetings prior to and following the COP in question. For instance, an official who attended COP 1, 2, and 3 would be coded as attending three COPs even under the category "COP 1."

Another important trend involves the differences between the experts and other attendees (primarily government officials). As demonstrated in Figure 2, the experts cannot only be distinguished by whether they were from a government agency, but by the number of COPs they attended. The figure shows the average number of COPs attended by experts and government officials for COP 1 through COP 16. It is clear that the levels of experience from both experts and government officials grew steadily between COP 6.2 and COP 12. The average number of COPs attended by government officials was 1.56, while the same average figure for experts was 3 COPs. A simple t-test on the number of COPs attended by experts and government officials, underlines the differences in

these profiles. It is highly unlikely that the experience profiles were similar ($t\text{-stat} = -3.6$). This implies that the experts were more consistently engaged in the climate negotiations than their government counterparts. Hence, not only would experts have more autonomy, greater technical training, and be represented at important COPs, but they would also have more exposure to processes that viewed the climate change in terms of a full weighing of costs and benefits.

3.4.2 China and Carbon Market

The CDM demonstrated that climate policy was not a losing investment but could indeed pay positive dividends. China's generally positive experience

with the CDM reinforced the sense that climate change could be compatible with other development priorities for a wider set of stakeholders. The first step in forging this connection was the creation of a Designated National Authority (DNA) to handling the approval of CDM projects in 2004 (Heggelund 2007). The DNA also became an important contact point for international cooperation on climate change. Following the creation of the DNA, China's interest in the CDM grew with increases in projects and credits (Heggelund 2007).

As demonstrated in Figures 4-7, China has benefited more than any other countries from the CDM in every important aspect. Those who worked on the CDM referred to the mechanism, only half kidding, as the *China* Development Mechanism. In terms of the number of CDM projects, China started slow, but quickly surpassed other major economies in 2006 (Figure 4). Today nearly half of all the registered CDM projects are located in China (Figure 5) and China alone has issued 57% of total amount of certified emissions reductions (CERs) from CDM projects, most of which were sold to developed countries for their compliance with the Kyoto Protocol's targets (Figure 6). China also has been the

recipient of more than two-thirds of the world's investment from the CDM (Figure 7). This global leadership position added to the sense that China could benefit from climate change.

Even more important than the sheer number of projects or credits was the message that the projects communicated to a wide range of stakeholders. China has CDM projects in 13 different project categories, ranging from wind power to methane recovery to biomass to afforestation/reforestation. The CDM then has the potential to touch key actors in a number of sectors. Moreover, CDM projects can be found in all 30 of China's provinces. In fact, there are at least 24 projects in every province and six provinces have more than 150 projects. While it is true that the total investment in the CDM pales in comparison to total foreign direct investment, it is also true that having revenue from a unique climate change mechanism can leave a deep impression (IGES 2011). Last but not least, because the CDM requires that projects go through a sometimes lengthy formal approval process, the stakeholders engaged in that process are more likely to be exposed to the technical details that are needed to deviate from business-as-usual baselines.

Figure 4. Number of CDM projects in the pipeline in BASIC countries

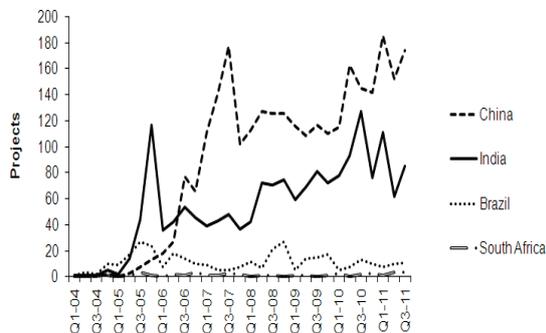


Figure 5. Number of registered CDM projects

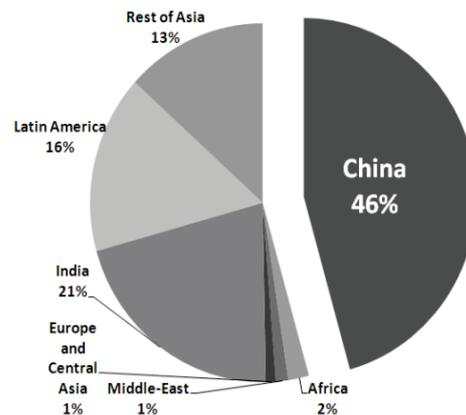


Figure 6. Accumulative amount of issued CDM credits by host country (as of July 2011)

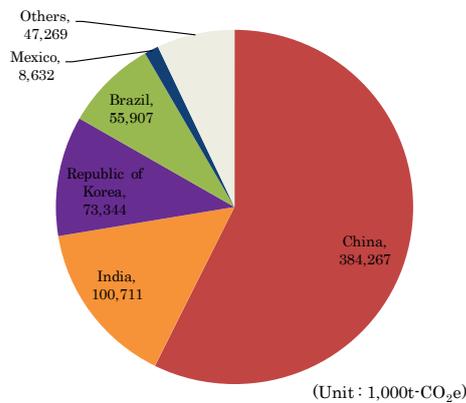
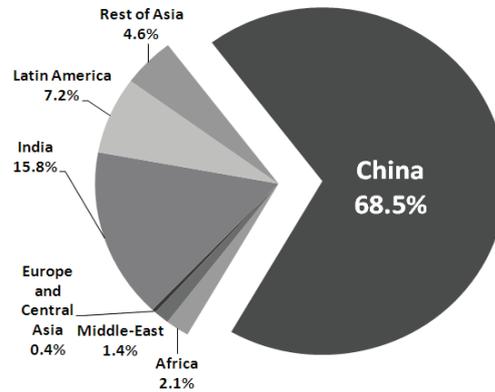


Figure 7. Investment from CDM by 2012



Sources: IGES CDM database (available at www.iges.or.jp)

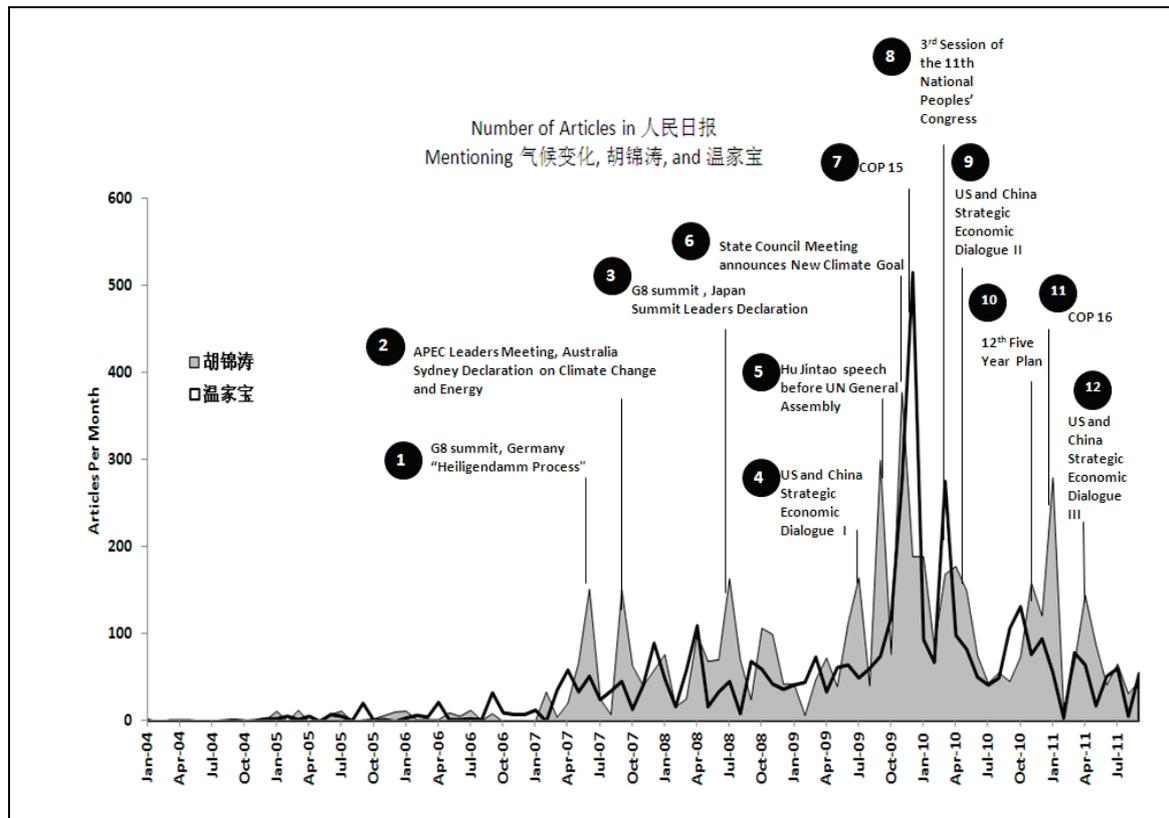
3.4.3 The Reputational Gains of Climate Change

Above and beyond the belief-changing influence of the CDM, there were also reputational gains from engaging being involved in climate change discussions. This section demonstrates that the growing realisation of those gains coincided with the past a half decade of domestic climate policy reforms. It does by looking at the greater attention paid to climate change from Hu Jintao and Wen Jiabao. It underlines that much of this interest has followed key international meetings that have seen a concomitant rise in China’s stature in international politics.

A very clear illustration of the recognition of these reputational gains can be seen in Figure 8. The figure charts the number of articles posted on China’s People Daily’s website including the Chinese

characters for climate change (*qihou bianhua*) and either Hu Jintao and Wen Jiabao. Please note that the People’s Daily website includes links to all of the articles posted by state-run newspapers not just the People’s Daily in China; hence it is possible for the same article to appear in multiple newspapers and be counted as cites. The pattern in the figure shows that the number of articles referring to climate change in the website began to include a sharp increase in climate change-related articles in 2007. This was the first year when at least one month published more than 100 articles including climate change and either Hu or Wen. Following 2007, at least one month in every year would have one of these spikes, and they would become even more frequent in 2009.

Figure 8. Climate Policy References and Key Milestones



More important than the number of references was the reasons for that Hu and Wen were being mentioned with climate change. In reviewing the articles, it is possible to discern a definitive pattern from looking at the 12 milestones marked in Figure 8. Typically, climate change moved up the policy agenda when there was an international meeting during which climate change was discussed. For instance, during the 2007 G8 summit, which featured discussions of a long-term goal of reducing the global GHG emission by 50% by 2050 and institutionalized the participation of five industrializing countries in addition to the eight traditionally powers that constituted the G8, there was significant references to climate change and Hu Jintao. This would occur later in 2007 when meetings of the Asia Pacific Economic Cooperation (APEC) meeting again included climate change on its agenda and concluded with the "Sydney Declaration on Climate Change and Energy" that set an APEC-wide aspirational goal of reduction in

energy intensity of at least 25% by 2030 (2005 base year).

In the years that followed, Hu or Wen's name would be referenced in relation to several other fora where climate change was on the agenda; but by 2009 and in the lead up to the COP 15 in Copenhagen there was also an important narrowing between international meetings and domestic policies. This was initially evident in milestone 4 on figure 6, labelled "Hu Jintao's speech at the United Nations." This speech would be the first time that the Chinese leadership would pledge to curb carbon intensity by a "notable margin" by 2020 from 2005 levels. The fact that this was done during an international audience on a platform that would also include remarks by United States President Barack Obama (who would not be able to make a similar commitment) indicates that there were indeed a growing belief in the gains from playing the climate card on an international stage. This would become even more apparent only a few months later when

China upped the ante with the announcement of the 40-45% carbon intensity target by 2020 just before COP 15.

The centrality of climate change to China's foreign policy was not only evident in the high-profile statements made by Hu and Wen. Even in exchanges with less symbolism, climate change was registering with its top leaders and becoming part of how other countries viewed China. For instance, in 2009 at the first of what would become an annual set of Strategic and Economic Dialogues between China and the United States, Todd Stern, the United States Chief Envoy for Climate Change, would make the following observations during a press briefing following a set of meetings between Chinese and American leaders on climate change:

You know, I think that [China] do[es] see this (climate change) as an issue that is of very significant importance, kind of just as a substantive matter, but also of real importance in the U.S.-China bilateral relationship, and increasingly something that's going to be important for their own – for the way they are *perceived by the rest of the world*. So I do think that that's – that that is sinking in at high levels (Emphasis added)¹⁰.

4. Conclusions: Pushes, Pulls and the Way Forward

This paper has explained the China's policy shift from the rejection of any commitments to reduce GHG emissions by examining four dynamics. First, energy efficiency promotion and low carbon development became national policy as Chinese leaders gradually mainstreamed climate concerns into energy policy. Underpinning this first dynamic was a burgeoning legitimacy crisis perceived by top leadership and energy security concerns derived from the reversal of three decades of steady gains in energy efficiency. Second, the NDRC was created out of two key energy and economic commissions

and given the climate portfolio. The increasing role of the NDRC in the institutionalisation of policy formulation and coordination also strengthened the climate-energy tie. Third, the performance of local energy efficiency achievement was tightly linked to promotions for local government officials, helping to overcome administrative fragmentation and related policy implementation problems. These three dynamics together served as domestic "push", which reduced coordination costs and barriers and made it easier to develop and pursue coherent policy. In other words, they created the necessary but not sufficient conditions for Chinese government to shift its climate change policy.

The fourth set of conditions came from a process of learning. Various forms of learning were illustrated. First, bringing in people and groups that have certain causal beliefs, for example, about energy modelling to achieve low carbon development could contribute to learning. The growing presence of experts on energy in the Chinese delegation to climate negotiations suggested how China could possibly attain low carbon development. Second, the participation in the CDM made many Chinese stakeholders recognise that China stands to benefit from international climate policy. The experience with the CDM, along with the repeated interactions between China and other countries in climate negotiations, demonstrated that there are reputational benefits from negotiating. This set of learning dynamics served as international "pull" through which the Chinese leadership could further update and refine its climate change policy.

Though this paper has demonstrated various dynamics which worked in favour of more proactive climate policy, there remains a persistent question as to whether and the extent to which China can enforce more costly policies particularly if such policies do not reinforce broader concerns about energy security, competitiveness, or the health costs of pollution (Busby 2010). It should be emphasised, however, that just a half decade ago it was unthinkable that China would take an international emission-intensity pledge. As discussed here, what the Chinese government did was to mainstream climate change concerns into development plan and reformed

¹⁰ Briefing on the U.S.-China Strategic and Economic Dialogue, 2009.

domestic institutions for policy formulation, coordination and implementation. This is significant progress with positive implications for the future.

This paper did not attempt to create a new theoretical framework, but rather aimed at bringing various theoretical perspectives together to explain the China's shift in climate policy. Four implications can be drawn from this paper's main argument. First, most of the existing literature on China's environment policies in general and climate change policy in particular does not explicitly engage theory¹¹. This paper is one of a few attempts at a theoretical argument. Second and related to theory, the paper shows that there are important connections between schools of thoughts that typically privilege interests, institutions, or ideas but rarely explore their interconnections (Hall 1997). The argument here is that domestic institutional reforms and the exchange of ideas were critical to China defining and then advancing its national interests. Third and more specific to the case study, the paper demonstrates how flexibly and quickly the Chinese government adopted policies that had been outside the scope of national interests. The process of aligning climate change issues with national interests was triggered by China's unique circumstances: the perceived legitimacy crisis of CCP and energy security concerns in the early 2000s. The case might also help illuminate how China would respond to other policy issues with indirect links to social stability such as inflation, unemployment and disaster management. Fourth and more specific to climate change, the paper also opens the door for comparative case studies between China and other emerging powers such as India or Brazil. Of particular interest would be how the interplay between interests, institutions, and ideas has affected climate policies with a different set of initial conditions in different countries¹².

¹¹ Exceptions include Bjørkum (2005) and Heggelund, Andrese et al. (2010).

¹² A recently published report provides comprehensive views on so-called BASIC countries (Brazil, South Africa, India and China), but not explicitly engage theory, let alone interactions among interests, institutions and ideas (Hallding, K., M. Olsson, et al. (2011). Together Alone: BASIC Countries and the Climate Change Conundrum. Copenhagen, Nordic Council of Ministers.)

Taking this line of inquiry one step further, it would also be interesting to examine how their interactions with a more proactive China influenced other emerging powers' interest in climate policy. For much of the next century, China will be helping to define where other countries national interest lies when it comes to climate policy. Whether it will play a constructive role in this regard will have a significant impact on whether the climate war can be won.

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