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Domestic Politics and Participation in Transnational Climate Governance: The Crucial Case of China

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国内政治及"跨国气候治理"(TCG)参与：关键性中国案例

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Abstract

Transnational governance is increasingly important to many areas of global politics, including global climate change, where multilateral negotiations have fallen into gridlock. However, we have yet to fully understand how domestic political conditions affect sub- and non-state actors’ ability to engage in governance beyond the state. Existing approaches to transnational governance emphasize, often implicitly, a liberal, pluralist view of politics, in which non- and sub-state actors have considerable agency with which to pursue their interests. The paper explores, instead, transnational governance under conditions of “fragmented authoritarianism,” explaining how the Chinese political context affects sub- and non-state actors’ participation in transnational climate governance. Because China will soon be the world’s largest emitter of greenhouse gases, understanding Chinese actors’ participation is crucial to the ultimate success of transnational approaches to climate governance. We find that while Chinese participation in TCG is limited and primarily reactive, the fragmented nature of the Chinese political system allows for greater participation than conventional theoretical approaches would expect.

摘要

跨国治理在国际政治诸多领域中的重要性日益凸显，其中包括陷入多边谈判僵局的全球气候变化问题。然而我们还未充分了解到，国内政治条件对次国家级行为者及非国家行为者参与超国家事务治理的能力如何产生影响。现有跨国治理方法往往含蓄强调政治的自由化和多元性，次国家级行为者及非国家行为者从而拥有维护自身利益的庞大机构。本文从另一视角探讨“条块化权威”下的跨国治理，并对中国政治语境如何影响次国家级行为者及非国家行为者参与跨国气候治理展开论述。中国即将成为世界最大温室气体排放国，因此了解中国行为者的参与机制对于跨国气候治理的最终成功至关重要。我们发现，尽管中国对于TCG的有限度的总体反动性参与，但相比于传统理论方式的预期影响，中国政治体系的条块分割本质给予了这些行为者更广阔的参与空间。
Introduction

After two decades of negotiation, countries have yet to agree upon a binding international treaty that would substantially restrict the emission of greenhouse gases (GHGs), the pollutants that cause climate change. The only legally binding agreement concluded, the 1997 Kyoto Protocol, aimed to reduce wealthy countries’ emissions by five percent below 1990 levels. But even this modest goal has been undermined by the rejection of the treaty by the United States, the non-compliance of member states like Canada, and the rapid industrialization of developing countries like China, which, though exempt from reductions obligations, will contribute the vast majority of future emissions. At the most recent meeting of the parties to the United Nations Framework Convention on Climate Change (UNFCCC), in Durban, South Africa, in December 2011, countries made a non-binding commitment to seek a future agreement “with legal force” over the next several years. That this outcome was widely considered a success highlights the intensity of the gridlock surrounding the negotiation process.

But while the multilateral talks have failed to deliver substantive reductions in emissions, and seem unlikely to in the near term, a host of projects and initiatives have arisen at the regional, national, and sub-national levels, and in the private and non-profit sectors, filling some of the “governance gap.” Examples include “unilateral” reductions at the municipal level, voluntary reductions from firms, and various methodologies for pricing and trading carbon credits. Many of these actions link across borders to form transnational governance, which we understand as “the processes and institutions, formal and informal, whereby rules are created, compliance is elicited, and goods are provided in the pursuit of collective goals” when the actors involved are sub- and non-state actors from different countries (Hale and Held 2011, p. 12, 15). In this way, climate change resembles other global issue areas in which transnational governance plays an important role, including global health, trans-border commerce, global financial regulation, and policing. Like these other issues areas, many of the transnational governance arrangements in the domain of climate change have increasingly attracted scholarly

In the face of continuing multilateral gridlock, some observers have suggested that transnational climate governance (hereafter TCG) might hold some promise of mitigating the worst consequences of climate change (Au, Conrad et al. 2011). Ultimately, however, whether these non-multilateral actions are able to provide a meaningful complement, or even alternative, to a “global deal” depends to a significant extent on whether or not they come to include a sizeable number of Chinese actors. China is the world’s largest emitter of GHGs, almost a quarter of the world’s total, a figure that may grow to around 30 percent by 2035, according to the International Energy Agency (IEA 2011). For this reason, no system of transnational climate governance that fails to include a substantial portion of Chinese actors can hope to mitigate climate change on a significant scale. Yet, our understanding of Chinese actors’ engagement with TCG remains limited, both empirically and theoretically.

On the empirical front, we have little understanding of the prevalence of TCG initiatives within China. Existing studies have examined Chinese involvement with individual TCG schemes (Zhang 2004; Heggelund & Buan 2009), but offer no comprehensive picture of the scale, scope and robustness of this participation. How many TCG initiatives are active in China? How substantial is their presence? And how many Chinese actors have been involved in the initiation of TCG schemes? Further, it is unclear what kinds of TCG initiatives Chinese actors participate in, and which actors have been involved. Without answers to these questions, our ability to gauge the prospects of TCG within China remains limited.

On the theoretical front, we have little understanding of the factors that shape Chinese participation in TCG. Much of the existing literature on transnational governance has been developed within the context of Western liberal democracies, and in economies in which the state plays a less direct role in the economy than in emerging economies like
China. \(^1\) Relatively less attention has been given to the politics of transnational governance in other types of states, leaving unanswered the question of how variation in domestic political institutions and state-society relations conditions actors’ engagement with transnational governance. Given that domestic political institutions are widely considered to shape participation in global governance generally (Milner 1997; Moravcsik 1997), this lacuna must be filled if we are to explain existing patterns in transnational climate governance. China presents a crucial case in which to explore these dynamics.

The present paper attempts to make progress on both fronts. Theoretically, the paper attempts to tease out the assumptions existing approaches to TCG make regarding domestic political conditions, and consider how these might vary systematically. Several recent studies, such as Espach (2009), Bartley (2010) and Andanova (2011), have demonstrated that features of domestic contexts help to explain why some transnational schemes (corporate certification schemes and public private partnerships) become widely adopted in certain states but not others. Building on these efforts, we seek to state in more general terms how the emergence and spread of transnational governance is affected by domestic conditions. Accounting for the context of “fragmented authoritarianism” in which Chinese actors find themselves is, we argue, essential for explaining the extent and character of their participation in different types of initiatives.

Empirically, the paper offers the first comprehensive study of China’s participation in TCG. Scholars of transnational governance have recently pieced together a comprehensive picture of TCG at the global level. Bulkeley (2010), Hoffmann (2011) and Hale and Roger (2011) have each developed databases of TCG initiatives, which present a picture of the types of initiatives that exist and the different actors involved, as well as other data. Collectively, they push the study of transnational governance forward by identifying broader patterns and trends, and help to move scholarly work beyond

\(^1\) Indeed, most transnational governance, in the climate realm and beyond, originates in North America and Europe (Hale and Held 2011). Perhaps for this reason, Chinese scholars have yet to widely embrace the topic of transnational governance. Chinese language scholarship on the subject is small compared to other IR topics, and existing literature often seems to conflate global governance (全球治理) with transnational governance, which might more properly be regarded as 跨国治理.
studying individual cases. In this paper, we have adapted our own database to examine Chinese actors’ engagement in TCG. The patterns we find confirm our theoretical expectations, and we explore the implications of our theorizing further by looking in more detail at Chinese involvement in three areas of TCG that have received the most attention from scholars: carbon markets, transgovernmental networks and transnational corporate governance.

The paper proceeds as follows. We begin by discussing the emergence of TCG and the growing literature that has sought to explain the dynamics and impact of TCG initiatives. In Section two we consider how China’s domestic politics condition participation in TCG, arguing that though the centralized, authoritarian nature of the state limits TCG to some extent, the fragmented nature of Chinese climate politics also creates opportunities. Section three introduces our database and discusses the patterns we find. Section four then looks in more detail at Chinese participation in carbon markets, transgovernmental networks and transnational corporate governance. Our conclusion considers the implications of these findings for effort to address climate change through transnational governance.

1. The Emergence of Transnational Climate Governance

TCG is a relatively recent phenomenon, which has grown rapidly since efforts to govern climate change began in earnest in the late 1980s and early 1990s. Initially, attempts to address the problem focused on creating a “global deal” amongst states that would coordinate and support national level regulations. States signed the UNFCCC at the 1992 United Nations Conference on Environment and Development, or “Earth Summit,” which provided a platform and principles for reaching such an agreement. Yet despite its promise this multilateral effort has faced numerous setbacks. While the UNFCCC process remains the focal point of the climate regime, and some progress has been made at the margins, including the establishment of the Kyoto Protocol (Harrison & Sundstrom 2010), the Clean Development Mechanism (Fuhr & Lederer 2009) and various intergovernmental financial mechanisms (Buchner et al 2011), persistent divisions among
some of the most important states have ultimately blocked more substantial measures (Victor 2011). Some have even gone so far as to argue that the UNFCCC process is hopelessly inadequate as a response to climate change, suggesting that we have put on the “wrong trousers” for tackling the problem (Prins & Rayner 2007).

It is in this context of minor successes and on-going frustration that TCG has emerged, becoming one of the most active, yet controversial, areas within the broader domain of climate change. Most often, it has been viewed as a helpful supplement to existing multilateral mechanisms - a “second-best” response that helps to galvanize action in the near term and potentially lays stepping stones to a full multilateral agreement in the future (Au et al 2011; Hale 2011a). Others have argued, in contrast, that TCG is an essential part of any “first-best” solution (Prins & Rayner 2007; Ostrom 2009). These advocates do not usually dispute the need for interstate action, as such, but they do suggest that it is fundamentally insufficient on its own. Finally, of course, some worry that TCG is, at best, a distraction from the UNFCCC process, with disruptive effects upon prospects for multilateralism (McGee & Taplin 2006; Vihma 2009). Whatever the answer, the rise of TCG has quickly produced a much more complicated governance landscape, spawning numerous studies that attempt to document its dynamics. Scholarship now speaks of a transnational climate regime complex (Abbott 2011; Keohane & Victor 2011), polycentric climate governance (Ostrom 2011), multi-level climate governance (Betsill & Bulkeley 2006) as well as fragmented governance architectures (Beirrmann et al 2010), and has sought to understand how their various elements interact in conflicting and complementary ways.

TCG initially emerged rather haltingly in the 1990s, with only a few initiatives active around the time of the Earth Summit, such as Energie Cities (created in 1990) and the E8 (created in the wake of the 1992 Rio Summit). More, and more diverse, schemes began to appear around the time of Kyoto. Then, as Hoffman (2011) has observed, TCG “took-off” in the 2000s. As the number of schemes grew, and as controversy began to arise regarding their nature and impact, TCG began to attract a considerable amount of attention from scholars in political science, sociology, law and economics. At least three
broad groupings of TCG initiatives have become especially prominent as the total number schemes has grown, each becoming the subject of intense investigation: voluntary carbon offsets (VCOs) and VCO standards (Lovell et al 2009; Lovell 2010; Green 2011a; Bushnell 2011; Boyd & Salzman 2011), transnational municipal and transgovernmental networks (Bulkeley & Betsill 2003, 2006; Toly 2008; Vihma 2009; Rabe 2010), and corporate governance and reporting initiatives (Brown 2011; Hale 2011b; MacLoed & Park 2011; Green 2011b). While each of these groupings exhibit unique patterns and dynamics that scholars have sought to explain, the questions of when and why sub- and non-state actors choose participate in TCG initiatives have become increasingly important.

The literature on TCG identifies three principal mechanisms through which transnational governance is created and how it comes to exert authority over a range of actors in world politics. We term these mechanisms bottom-up cooperation, orchestration and delegation, and communities of practice. Consider each in turn.²

**Bottom-up cooperation.** The mechanism sees transnational governance as a strategy sub-state and non-state actors employ to achieve their policy goals in world politics. Conventionally, we imagine such groups lobby national policymakers through formal or informal governmental channels, expecting states to then cooperate with each other to achieve a certain policy outcome favorable to the group. However, to the extent sub- and non-state actors possess the power to achieve that outcome through their own governance activities, they may substitute transnational governance for conventional lobbying. This incentive is likely to be particularly strong in issue areas like climate change where sub-and non-state actors possess significant capacity to address the problem and intergovernmental negotiations have stalled. Abbott and Snidal develop a theory of bargaining between transnational actors to explain institutional outcomes (Abbott and Snidal 2009). “Just as in their efforts to capture domestic state regulators, firms, NGOs and other actors operate in the transnational regulatory space not as neutrals seeking “good governance,” but as partisans pursuing their special interests and values with

² This section draws on forthcoming work by the authors.
differential power and capabilities. Actors bargain implicitly – through individual actions including the strategic creation of single-actor schemes – and explicitly – over the creation, management and control of collaborative schemes.” Transnational governance requires a range of competencies, they argue, including independence, representativeness, expertise, and operational capacity. “In this complex bargaining game, competencies serve as power resources as well as regulatory attributes.”(Abbot and Snidal 2009)

Delegation and Orchestration. While the growth of transnational governance entails a shift away from “traditional” state-led intergovernmental institutions, states remain powerful actors, and in fact invite and shape much of the transnational governance that sub- and non-state actors provide. We distinguish two forms: delegation and orchestration. Delegation occurs when states decide to transfer authority to transnational actors, choosing to defer to their expertise and decisions in certain circumscribed issue areas (Green 2010). States will rely on non-state actors when doing helps them to achieve certain agreed upon goals. The characteristics of non-state actors that may make delegation to them particularly desirable include their technical expertise, operational independence, and moral authority. Given these features, has explained, delegation may allow states to solve certain cooperation and coordination problems by reducing transactions costs, increase the credibility of their commitments, facilitate first-mover advantages, and improve reputations. This is especially so when a public agent cannot provide the same kinds of benefits because they lack expertise, have a poor track record relative to a private agent, because public institutions overlap or compete with one another, or because a public agent has been unable to gain authority in a particular issue area. However, delegation is only likely to take place if states are able to agree on what governance functions should be delegated and who they should be delegated to.

When states are unable to collectively agree upon a particular course of action, however, national governments or their agents, IOs, may still employ transnational governance by orchestrating the actions of sub- or non-state actors. Orchestration is “a strategy whereby states or international organizations bring new capacities and resources to the provision of global public goods by strengthening or catalyzing transnational governance schemes”
(Abbott and Snidal 2009). As such, it is distinct from delegation in that it does not involve establishing hierarchical, principal-agent relationship between a state or IO and transnational actors. Orchestration, according to Hale and Roger (2011), takes place when a number of conditions are met. First, IOs or states must have both the capacity and motivation to engage in orchestration, having both sufficient autonomy to act independently and an interest in taking action in a particular domain where states have been unable to sustain cooperation. Second, sub-state or non-state actors must have some interest and capacity to address the problem, but face certain collective action problems that hinders their ability to effectively provide TNG. Third, a state or IO must possess certain attributes that can help a TNG scheme to ameliorate this collective action problem. Such attributes include being a focal institution in a given issue area, possessing a unique level of convening power, having certain kinds of moral legitimacy not available to non-state actors acting independently, and, under certain conditions, controlling significant material resources. Finally, they also argue that certain ideational factors may be essential. An orchestrator must possess on organizational culture that sees advantages in engaging transnational actors, and experience that enables them to skillfully do so when these four conditions are in place.

Communities of Practice. A third approach offers an explanation for transnational climate governance that emphasizes not the agency of individual actors, but rather the relationships, norms, and practices that link them. These factors, or, more generally, “the collection of contextual factors or conditions affecting organization structures or processes” (Scott 2001), have been described as “organizational fields,” in institutionalist sociology. In this view, individual organizations are shaped by their peers, taking on similar roles and acquiring similar functional characteristics. The exact mechanisms that lead to this isomorphism are presumed to vary—the classic study in the genre suggests coercive, normative, and cognitive processes (DiMaggio and Powell 1983)—but all must be understood as social in nature, not atomistic. While the theory offers interesting perspectives on how groups of institutions evolve and affect one another, it is less concerned with the origins of such institutions than rationalist perspectives.
Dingwerth and Pattberg (2009) apply this concept to the realm of transnational corporate labeling, standards, and disclosure schemes. Noting that transnational governance institutions for sustainability exhibit significant isomorphism, they argue that an organizational field—“a recognizable area of institutional life” (DiMaggio and Powell 1983)—exists, and that it has shaped emergence of new mechanisms and the form they take. Dingwerth and Pattberg argue that the organizational field developed in three phases. First, the “prototype” models were established in the early 1990s by organizations like the Forest Stewardship Council (FSC) or the Coalition of Environmentally Responsible Economies (CERES). These institutions were aware of each other, and actively studied one another during their design processes. Second, over time the prototype models become more expansive and institutionalized. CERES, for example, evolved into the more ambitious and institutionalized Global Report Initiative. New organizations were also created along the lines of the prototypes—for example, the Marine Stewardship Council—and cross-cutting institutions like the International Social and Environmental Accreditation and Labeling (ISEAL) Alliance began developing common norms for the field. Finally, third, the organizational models developed in the realm of sustainability labeling expanded to more and more domains, including diamonds (The Kimberly Process) and other extractive industries (The Extractive Industries Transparency Initiative).

Several studies have applied related methodologies to the realm of climate politics. Kolk and Pinske (2008) argue that low-carbon norms are emerging amongst some MNCS, particularly in Europe. They find that interest and acceptance of carbon disclosure policies amongst firms varies with the policies of their home countries. Another ongoing study has begun to trace the individuals and communities behind the concept of emission trading, showing how the idea has spread via a specific epistemic community of practitioners (Paterson, Hoffmann et al. 2011).

2. Domestic conditions and Transnational Climate Governance: The case of China

Scholars have only recently begun to consider how domestic factors condition participation in transnational governance. Bartley (2010), for example, has studied how
the implementation of corporate certification schemes for forestry and apparel in Indonesia are affected by local conditions. He concludes that quite specific factors, such as the nature of property rights over forests, as well as the government’s dependence on the pulpwood industry, strongly reduced the efficacy of transnational governance programs. While the specific findings are not immediately generalizable to other cases, they provide evidence that domestic contexts matter a great deal.

Looking across countries, both Espach (2009) and Andonova (2011) have considered how different domestic conditions affect the adoption of transnational governance. Espach has examined how variation in the success of the FSC and Responsible Care in Brazil and Argentina, Espach (2009) has been influenced by the legacies of past industrial policies and environmental crises. In each case, he has shown how these have shaped on the dominant business cultures and mindsets of businesspeople in each country, in turn, affecting their receptiveness to foreign standards, and therefore regime adoption and development. Andanova’s study, on the other hand, analyzes the public-private partnerships that emerged from the 2002 World Summit on Sustainable Development (WSSD), and she argues that actors’ engagement in transnational governance is affected by their domestic and international “opportunity structures.” Instead of seeing transnational governance as merely compensating for weak states, or as simply an additional tool of strong states, Andonova presents it as evidence of the “re-articulated” state in which governments continue to shape international politics, but transform the nature of their interventions away from ‘traditional’ state-to-state diplomacy and toward a wider range of activities that take into account the wider range of actors now engaged in global governance (c.f. Slaughter 2004). Though Andonova notes that “considerable uncertainty remains…as to the mechanisms and conditions through which the rearticulation of the state takes place” (p. 10), her statistical analysis of

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3 Related, a forthcoming study by Prakash and Potoski shows that domestic institutions affect the impact of transnational governance, showing that more stringent domestic environmental laws increased the effectiveness of ISO 14001 on corporate behaviour. A. Prakash and M. Potoski (2011). Global Private Regulation, Domestic Public Law: ISO 14001 and Pollution Reduction. Workshop on Research Frontiers in Comparative and International Environmental Politics Niehaus Center for Globalization and Governance, Princeton University.
participation in the WSSD partnerships supports the idea that pro-active environmental ministries and connections to international advocacy networks—which Andonova associates with the re-articulated state—are correlated with participation in transnational governance. Thus, domestic politics clearly affect participation in transnational governance.

Several studies have also considered precisely the question of how conditions in China affect actors’ engagement with particular forms of transnational governance. As elsewhere, certification schemes, such as ISO14000, an environmental management standard, have been the most thoroughly explored (Chistmann & Taylor 2001, 2005). Indeed, most existing work has focused on firms, which, like firms in other developing countries, have been seen as under-participating in such voluntary programs. The literature highlights two chief factors to explain this general lack of participation: the weakness of civil society under China’s authoritarian system and the lack of internalized environmental values within Chinese firms, as well as amongst their primary customers and investors. We briefly discuss each in turn.

First, the “weak civil society” argument. Drezner and Lu (2009) examine the participation of Pacific Rim companies in three transnational governance initiatives (the United Nations Global Compact, the Free Burma Campaign, and ISO 14001), offering several alternative hypotheses for why Asian firms participate less than their Western counterparts. Among them, Drezner and Lu conjecture that closed regimes, in which civil society is less influential, will see less firm participation in voluntary programs, since adoption of standards often depends on the local advocacy. A similar argument is made in Andonova (2011) with reference to the case of Russia.

However, in contrast to their assertion, the Chinese authoritarian system’s chilling effect on civil society is by no means absolute, and especially not in the realm of environmental

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politics. The Beijing-based Friends of Nature, founded in 1994, is widely considered China’s first environmental NGO. Just ten years later, the State Environmental Protection Administration (the precursor to the present Ministry of Environmental Protection), estimated that some 2,000 NGOs existed (Yang 2005), with some independent experts suggesting there might be as many as twice that number if non-registered organizations were counted (Economy 2005). While the number of politically meaningful NGOs is much smaller (Schwartz 2004), there is no doubt that the last 15 years have seen the emergence of a Chinese environmental movement (Stalley and Yang 2006).

Despite the significant growth of environmental advocates, several observers have noted that Chinese environmental NGOs often prefer subtle tactics—including research, information-sharing, public education, behind the scenes lobbying, and lawsuits—over more aggressive campaigning (Schwartz 2004; Yang 2005; Stalley and Yang 2006; Tang and Zhan 2008). In this view, tacit acceptance of the boundaries the authoritarian system places on political contestation limits the range of tactics Chinese non-state actors may pursue. It must also be acknowledged, however, that more aggressive campaigning has occurred, for example, around large dam projects (Mertha 2009). Such tactics have in recent years been aided by the spread of social media like Sina Weibo, as last year’s dispute over the Beijing government’s reporting of particulate matter in the air demonstrated. Moreover, foreign environmental groups are highly active in Chinese politics, and have formed deep organizational and operational partnerships with local NGOs. Greenpeace China provides a useful example. The group has developed close alliances with local NGOs in western provinces in connection with its campaign to publicize the danger of coal production. This campaign has also been relatively confrontational, with Greenpeace releasing and publicizing extremely critical reports (Peng 2011). In sum, Chinese environmental politics are relatively dynamic, even if they are ultimately bounded by the closed nature of the political system. We should therefore expect domestic and foreign civil society groups to engaged in the kind of lobbying, corporate outreach, and local-level activism that has been seen as a driver of transnational governance elsewhere. Indeed, TCG may be a particularly attractive strategy for NGOs precisely because of the constraints on more conflictive advocacy.
Second, scholars contend that Chinese corporations have internalized few environmental or social values, and are not demanded to do so by their domestic customers (who are not particularly willing to spend more for greener products) or investors (often state-run banks) (e.g. Drezner and Lu 2009). But as with the weak civil society argument, the argument that Chinese firms lack strong environmental motivations discounts some important nuance. Survey data consistently shows that environmental issues are important for much of the Chinese public, especially in urban areas, although it is true that this has yet to translate into a significant willingness to engage in consumer activism. Socially responsible investment is also minimal. Nonetheless, some transnational governance programs, such as ISO14001, are now widespread in China, despite difficulties surrounding early adoption in the 1990s (Di 1999). Subsequent work has show that this participation is largely driven by the need for Chinese firms to market to foreign companies that demand higher environmental standards (the ‘California effect’ (Vogel 1995)), or by diffusion of standards from foreign firms to their Chinese subsidiaries (Christmann and Taylor 2001; Christmann and Taylor 2005; Pulver 2007). Without these incentives, Chinese companies are seen as unlikely to join voluntary regulatory programs (Chu and Schroeder 2010; Lin 2010).

Both the relative weakness of civil society and the relative lack of demand for green outcomes amongst consumers and investors may help to account for the relatively low participation of Chinese actors in TCG. However, such general claims do not help us understand why we observe any Chinese participation in TCG at all, or what shapes the nature of the participation that does exist. Moreover, since the arguments are directed mainly at TCG involving firms, it is unclear what they can tell us about participation in different forms of TCG, such as transgovernmental networks or carbon markets, both of which have played a prominent role in the literature on TCG. Explaining Chinese participation in different forms of transnational governance requires, we argue, a more nuanced understanding of Chinese domestic politics and the nature of state-market relations.
We argue that it is most useful to view climate politics in China through the prism of “fragmented authoritarianism,” which sees politics under the nominally centralized and authoritarian Chinese state as more pluralist than official institutions and popular perceptions suggest. As originally conceived, the concept was largely limited to intra-bureaucratic conflicts (Lieberthal and Oksenberg 1988). More recently, however, Mertha (2009) has proposed that an ever widening group of actors within China, including the media and NGOs, now possesses unprecedented access to the policymaking process, as do commercial interests (Zeng and Mertha 2007; Kennedy 2009). Indeed, existing work on the domestic politics of climate change in China, though not large, paints a picture of Chinese politics at their most pluralist.

Consider first the intra-governmental divisions. Two are particularly salient. First, different units of the bureaucracy possess distinct policy goals, which inevitably come into conflict. The functional differentiation of China’s ministries and sub-ministerial agencies make them accountable to different stakeholders, engender differing world views, and, perhaps most importantly, make an individual bureaucrat’s success and chances for promotion linked to different—at times, incompatible—policy outcomes. It is thus not surprising that different sections of the state come to hold different policy preferences. This divergence of interests fuels the inter-ministerial competition over policy that characterizes Chinese politics. China’s national climate policies are an excellent demonstration of this phenomenon. Though increasing recognition of China’s vulnerability to climate change and its related desire to achieve energy independence and cleaner development create an objective “national interest” in tackling the problem, as one observer notes, “For concrete policy change to materialize, the shifts in national interest as stipulated by the national government need to resonate with and be carried by an intricate bureaucratic system consisting of a multitude of self-interested administrative entities in a way that creates an internal dynamic conducive to policy change” (Conrad 2010, p. 52). Climate change was initially considered a scientific issue, and responsibility for it was first given to the politically weak China Meteorological Administration, an administrative unit under the State Council. But as the issue emerged on the international agenda, the Ministry of Foreign Affairs (MFA) began to take a dominant role in outlining
climate policy. Though nominally under control of committee representing four units of the bureaucracy, the MFA easily dominated the other, more scientific bodies. However, as the issue became more connected to China’s domestic political priorities at the end of 1990s and early 2000s, several reorganizations followed, the effect of which was to vastly increase the political salience of climate policy and put it under the control of the National Development and Reform Commission (NDRC), the bureaucratic entity with broad responsibility for economic governance, and perhaps the single most influential entity on domestic policymaking. The MFA, MEP, CMA, and the Ministry of Science and Technology (MOST) all act as vice-chairs of the inter-ministerial coordinating agency, each bringing distinctive priorities. The result is an institutionalized set of competing interests over Chinese climate policy, with economic development interests holding the dominant position (Conrad 2010, Yu 2010). As Yu (2010) notes, the result of this bargaining is a unified policy position that is generally accepted across the central government, even if it does not reflect a consensus position.\footnote{Yu interprets this policy coordination as evidence against a fragmented authoritarian model, because the final policy is broadly accepted by the relevant actors, at least at the central level. Here we the concept somewhat differently, more as a measure of the degree of interest divergence and open contestation present in intra-bureaucratic wrangling. Yu’s empirical findings are consistent with this interpretation. Yu, H. (2010). "Global Governance against Global Warming and China's Response." Chinese Public Affairs Quarterly 2(4): 296-313.}

The second major axis of contestation within the Chinese state is between the central government, the provinces, and local authorities, which is typically described under the rubric of center-local relations. Nominally, policy directives originate in Beijing and are implemented by lower-level governments. Beijing also retains control of most tax revenue, and local officials depend on authorities at higher levels for promotion. In practice, however, provincial level governments, especially, actively participate in the national policy-making process and lobby for policy outcomes favorable to local interest groups. Such bargaining was particularly intense around the climate-related targets specified in the latest Five Year Plan, with provincial interests successfully reducing the more ambitious targets proposed by MEP (Feng and Yuan 2011).
Because implementation must ultimately occur at the local level, and Beijing possess only limited resources to monitor and enforce implementation, provinces and more local authorities possess significant de facto power to veto centrally determined policies. Again, this dynamic is particularly pronounced in the environmental realm (Economy 2004; van Rooij 2006; Fuller 2007). Kostka and Hobbs (2012) have traced the implementation of climate and energy efficiency policies mandated by the 11th Five Year Plan in Shanxi province. They show how the provincial leaders, eager to achieve stringent energy-saving goals in order to please Beijing, bundled unpopular climate change policies together with generous incentives for local interest groups (such as favorable land-use allocations) to “log-roll”—the authors make explicit the analogy to pluralist political dynamics—interest groups into supporting climate policies.

Last, actors outside the government have been increasingly vociferous. Indeed, fragmentation within the Chinese state also creates greater ‘space’ for contestation outside of it. A non-state interest group with no allies inside the state is unlikely to be seen as a legitimate actor in Chinese politics. But once and interest group can align with components of the Chinese state, its standing is considerably enhanced. The political space for contestation inside government and without is thus particularly large for issues, like climate, where the interests of dominant groups split. It is important to note that these opportunities apply to foreign groups as well, and many authors in fact view foreign NGOs as a major impetus behind Chinese climate policy. Schroeder (2008) argues that climate politics in China can be understood through a ‘spiral model’ (Risse et al. 1999), in which international norms relating to climate protection have been gradually internalized by Chinese policymakers. Scientific epistemic communities played a key role in this process, Schroeder argues, transmitting both knowledge about climate change and norms regarding how China might respond to Chinese colleagues in government-backed research institutes and in the relevant ministries. These officials and ministries then became the leading advocates for pro-climate policies within the Chinese government. While international NGOs have been part of this process, they have relied less on the “naming and shaming” tactics common in other areas (e.g. human rights), and opted instead for informal lobbying and positive incentives such as awards (Schroeder
2008). Linkages between foreign NGOs, local NGOs, and pro-climate officials in the national government can be quite close, creating effective transnational networks for climate advocacy. At the same time, Zhang Haibin, a close observer and participant in Chinese climate politics, argues that the role of foreign NGOs is often overstated, with analysts mistaking access to policymakers for influence over them (Zhang 2011).

Revised theoretical expectations

We argue that a fragmented authoritarianism perspective suggests a novel way to re-think the nature of the actors who engage in bottom-up climate politics. The fragmented nature of climate politics in China creates possibilities for TCG even as it conditions the form of TCG we should expect. Consider again the three mechanisms through which TCG is formed.

The bottom-up mechanism ascribes to sub- and non-state actors a significant degree of political agency. Two assumptions lay at the core of this view. First, it assumes that sub- and non-state actors have independent preferences over policy. When sub-national governments or bureaucratic actors are mere extensions of a national government, they cannot be understood to hold meaningfully independent preferences. We should therefore expect less transnational governance in centrally controlled polities, in polities where market actors are dominated by the state, and in polities with weak civil societies.

Second, the bottom-up mechanism assumes that sub- and non-state actors seek to realize their preferences through political activity outside of lobbying the national government (e.g. by ‘naming and shaming’ polluting corporations to improve their behavior; creating a certification scheme; taking ‘unilateral’ action at the local level, etc.). This strategy requires some capacity to engage in political contestation (e.g. material resources, normative legitimacy, expertise, etc.), and a political context in which such actions are

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accepted as legitimate (e.g. guaranteed rights to organize and exercise voice, constitutional or de facto authority over local policy choices). All else being equal, we should therefore expect more engagement in transnational governance when sub- and non-state actors are relatively autonomous and when they possess (and are able to use) political resources with which to pursue their objectives.

In China, then, two important modifications to the bottom up mechanisms may be required. First, a fragmented authoritarianism perspective suggest that we may need to re-think the nature of the actors who engage in bottom-up climate politics. The existing literature sees private firms, NGOs, and ambitious local governments as the primary creators of TCG. But in a political system like China’s, in which many meaningful policy contests are resolved within the state-party apparatus, we can expect significant agency to lay with governmental actors, especially those at the national level. Orchestration will therefore likely play an outsized role compared to entrepreneurial approaches. Even when private interests instigate TCG, they are likely to desire governmental support to increase their legitimacy, meaning that partnered governance arrangements will be relatively more common than purely private ones.

Second, when the firms with the most capacity to affect climate change are state-owned, we should also expect intra-state bargaining, not private-private bargaining, to determine the success of TCG initiatives. While the literature has shown that private companies linked to export markets and FDI have been quick to adopt transnational governance, we should not expect similar behavior from electric utilities, construction firms, or the like. Naming-and-shaming will have little impact on state monopolies. Voluntary corporate programs will therefore likely receive little participation from Chinese actors.

As with bottom-up dynamics, orchestration assumes some degree of political agency on the part of sub- and non-state actors. In this case, the capacities of sub- and non-state actors to effect governance can be thought of as a tool the state would like to employ, but one it cannot simply order these actors to deploy. Again, there is a core assumption of political agency. However, there is also an assumption that the state lacks absolute
authority to order the changes it seeks (or, more plausibly, lacks the legitimacy or political capital to attempt such “command and control” strategies), and must therefore rely on the gentler strategy of orchestration. As per the above argument, orchestration offers a potentially powerful mechanisms for ministries and local governments to employ when they cannot realize their goals through the national policymaking process. We should therefore expect the more environmentally oriented parts of the Chinese bureaucracy to attempt to bring sub- and non-state actors into TCG via this mechanism.

As with the other two mechanisms, the communities of practice mechanism assumes a certain degree of autonomy amongst sub- and non-state actors. However, it differs from these other mechanisms in that it emphasizes the identity and social context of these actors, not their capacity to engage in political contestation. There is therefore an assumption that sub- and non-state actors are to some degree connected to transnational networks. This may be less true in countries where international linkages are prevented or strongly mitigated by the government. However, the fragmentation of the Chinese state may create more access points for transnational epistemic communities than might be assumed. In theory, Beijing possesses the ability to mediate contact between foreign actors (like international NGOs) and potential local partners. In practice, such linkages are difficult to control, especially when elements of the national bureaucracies share common interests with foreign groups, and become, over time, members of the same epistemic community. This dynamic is particularly evident in the realm of environmental politics (Falkner 2006).

In sum, then, we would expect the autonomy, capacity, and social context of actors—key components of the mechanisms through which TCG is created—to be strongly conditioned by the nature of the state. In the next section we turn from the general to the specific, considering how the nature of Chinese politics conditions these mechanisms. Prima facie, these considerations might lead us to expect China’s centralized, authoritarian government and that large role the state plays in the economy to significantly curtail Chinese sub- and non-state actors’ engagement in TCG. In fact, we
will argue that domestic conditions in China are in some ways more favorable to TCG than may be expected.

3. Mapping Chinese Actors’ Engagement in TCG

In order to develop our understanding of the factors shaping Chinese participation in transnational governance, we first identify the full range of transnational climate governance initiatives globally and then assess the number active in China. Our dataset is described in more detail elsewhere (Hale & Roger 2012), and combines several other existing databases, as discussed below. This information allows us to make several descriptive inferences about the overall extent and character of Chinese participation in particular kinds of transnational climate governance initiatives over time. Furthermore, by identifying those that are active in China, as well as a range of potential initiatives (those not active in China), this also helps us to identify a narrower set of schemes for more detailed qualitative investigation in the next section.

Methods and Data

Our database amalgamates and builds upon two others. The first (Bulkeley 2010), developed by the Leverhulme Trust-sponsored Transnational Climate Change Governance Research Network, based at Durham University, identified a set of 60 transnational climate governance schemes and included observations on a number of their features, such as date of initiation, participants, issues addressed, regional scope, and so on. The second, created by Hoffmann (2009, 2011), is roughly similar in nature, identifying 58 climate governance “experiments” and quantifying their various features, but differs from the Leverhulme Trust dataset in that the initiatives are not necessarily “transnational” in nature; the main criteria for inclusion in Hoffmann’s dataset was the inventive or innovative character of various schemes rather than their geographical scope. Thus, a number are strictly local or domestic in nature.
Combining these two databases, supplementing it with many of our own observations, and eliminating any overlaps produced a total of over 130 potential TCG cases. We then developed and applied our own criteria for inclusion and exclusion to make the dataset useful for answering various questions we were interested in.

First, of course, initiatives needed to be addressing climate change. A broad criterion, initiatives could be intended to deal govern a variety of different aspects of the problem, from mitigation to adaption, from deforestation to energy efficiency, from regulating carbon offsets to channelling funding to carbon offset projects, and so on. In most cases, determining whether a project is intended to address climate change is an easy test. But, occasionally, initiatives appear to address a variety of issues non-climate change related issues as well. For example, ICLEI - Local Governments for Sustainability was established in order to govern a broad range of sustainable development problems; climate change is only one of its main concerns. Therefore, to determine whether an initiative meets this criteria, we relied primarily on the mission statements frequently included on websites, or some similar statement of purpose. If an initiative included climate change among its main goals, it was considered a candidate for inclusion.

Second, an initiative needed to qualify as an instance of governance. This is, admittedly, at times difficult to determine given that the term itself is subject to considerable interpretation. We argue - along the lines set out by Andanova et al (2009) - that governance occurs when networks of actors explicitly seek to authoritatively steer constituents, be they individuals, firms, governments or otherwise, towards public goals. This may or may not occur through the explicit setting of regulations, standards or rules, whether voluntary or mandatory. A governance initiative may also seek to steer behaviour by providing collective goods such as capacity building services, knowledge dissemination, technical assistance, financing or specific kinds of information provision. Its primary purpose in doing so must, however, be explicitly public in nature and intended to change behaviour. Borderline cases exist, of course, and initiatives may or may not be effective in meeting their goals. Examples of potential candidates that we excluded as cases of “non-governance” were NGOs, private consulting firms, lobbying
groups, specialized news services, networking forums, and memorandums of understanding.

Second, in keeping with the literature on transnational actors in world politics (Risse-Kappen 1995), an initiative needed to include at least one sub-state or non-state actor, either as a member, participant, user or partner. This was determined, typically, by analysis of the content (membership lists, participant registries, etc.) of initiative websites. The C40, whose membership list is found on its website and is comprised entirely of municipal governments, was therefore included in our database, for instance. The Climate Action Reserve, a carbon offset standard orchestrated by the State of California and adopted by a variety of non-state actors, was also included. Although sometimes unconventional, intergovernmental treaties and organizations that did not include such participants, such as several bilateral and multilateral climate change memorandums of understanding (for example, the US-China Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment), were excluded.

Third, to be included in our dataset, we required that initiatives be genuinely transborder in nature. Thus, an initiative needed to have members, participants, users or partners from at least two different states. Again, this was determined by analyzing the content of initiative websites. The Western Climate Initiative, which includes participants (provinces and states) from the United States and Canada, is transnational. Refrigerants, Naturally!, which includes participants such as Coca-Cola, an American multinational corporation (MNC), and Unilever, a British-Dutch MNC, among others, also qualified. By contrast, the Regional Greenhouse Gas Initiative and the National Association of Counties’ Climate Protection Program, whose governance activities are entirely confined to the United States territory, were excluded.

Fourth, we removed single organizations and corporations. Although they may sometimes engage in governance-like activities (providing information, awareness-raising, etc.) and/or may be directly involved in a number of TCG initiatives,
organizations such as PointCarbon, the World Business Council for Sustainable Development, the Red Cross/Red Crescent Climate Climate Centre, which were included in other databases, were excluded. Similarly, although a case can be made for regarding corporate social responsibility schemes (CSR) as a powerful form of global governance, we did not include single MNC CSR schemes within our database. In each case, we did not consider these to be our primary unit of analysis, which is the “initiative,” “scheme” or “standard,” involving a network of actors.

After disqualify cases that did not meet our criteria, the resulting database contains 75 TCG initiatives (see Appendix for a list). It comprises all the major TCG initiatives, but we are unable to claim it exhausts the total universe of TCG. With cases identified through a process of “searching and asking” - a large-N variant of Fenna’s “soaking and poking” methodology - a researcher can be confident that the most prominent examples have been identified, but that the sample is non-exhaustive and non-representative in several ways. For example, successful initiatives will be overrepresented in the sample, since they are likely to last longer and attract more attention. Initiatives involving less prominent actors, or actors on the periphery of central climate governance networks, are likely to be underrepresented. This will possibly lead to a bias in the sample towards initiatives created by actors in the global North. Finally, the sample will likely be biased towards initiatives that have been studied and cited before in academic literature, resulting in some degree of path dependence in the selection of cases.

Descriptive Statistics

To assess China’s participation in the larger TCG regime, we have modified our original dataset to identify the TCG initiatives that are active in China. In addition to their number, we also determine the date which an initiative became active in China, which frequently differs from the date of initiation since the Chinese public and private actors have only been involved in the creation of a small number of TCG initiatives. The date of initiation in the dataset as a whole is usually easily determined by looking at the websites of particular initiatives. Determining the date that Chinese actors began to participate in
an initiative - that is, if and when a specific TCG scheme became “active” in China - is occasionally more difficult. We code an initiative as being active in China when at least one Chinese public or private actor becomes a member or participant in a particular scheme, partners with other actors to create one, or begins to use a standard. Thus, if a website displays a Chinese firm, or NGO, or municipality, etc. as a member, or shows that they have adopted a particular standard, we count it as active. The date that a website records this first occurring is recorded as the date it became active in China. Sometimes, however, a start date was not openly available online. In this case, the date that an initiative becomes active was determined by either an analysis of media about Chinese participation or by contacting the initiative or Chinese participant directly. By doing so, we were able to identify a set of 33 initiatives that are active in China. These are listed in Appendix 1.

Nearly half (44 percent) of all the initiatives in the dataset are therefore active to some extent in China. Although it is not possible to make direct comparisons with our own dataset, a comparison with Bulkeley’s regional data suggests that this is a relatively large number. According to her dataset, this figure is comparable to the entire share of initiatives that include at least one participant from Sub-Saharan Africa and Oceania (47 percent and 43 percent, respectively), equal to the share of initiatives that include at least two participants from Latin America (45 percent), and far above the share of initiatives that include at least one participant from the Middle East and North Africa (27 percent). Within its own region, Chinese participation is also quite strong. Bulkeley found that 66 percent of initiatives in her dataset include at least 1 participant from Asia. The number of initiatives active in China has also grown quite significantly in a short period of time. As Figure 1 shows, China’s participation in the TCG regime has, with some delay, grown roughly in step with the overall number of initiatives. In the our global dataset, the first scheme is recorded as being created in 1990, and the total number of initiatives begins to increase considerably after 1998. The first initiative recorded as active in China appears the following year, in 1999, and steady growth begins shortly thereafter, in 2002. Interestingly, in both, the rate of growth then appears to slow in 2009, and in 2011 the
total number in the global dataset actually declines for the first time (not shown in the figure).

[Figure 1 here, see Appendix 2 for figures]

How robust is Chinese participation? What role have Chinese actors played in the initiation of various initiatives? In order to address the first of these questions we follow Bulkeley by measuring the number of initiatives that are active in China with two or more Chinese participants. This serves as a crude indicator of robustness, seeking to identify those initiatives which include only token Chinese participation. In total, we find that 27 initiatives include at least two or more Chinese participants, or 81 percent of the total that include one or more (see Figure 2). By comparison with Bulkeley’s findings, the robustness of Chinese participation is nearly identical to that for Asia as a whole, and its level of participation is slightly higher than that in the global South as a whole; she found that roughly 73 percent of the initiatives active in the global South include involvement by two or more Southern actors.

[Figure 2 here]

Finally, how many initiatives have been initiated by Chinese actors? In order to answer this question, we returned to the websites of those initiatives which indicate that Chinese participation began in they year the initiative was started. We then determined whether Chinese participants had been leading actors in an initiative’s creation by analysing online statements and media reports. Where at least one Chinese actor was indicated as being a founding member or signatory, the scheme counted as being “initiated” with Chinese involvement. By doing so, we find that Chinese actors have been involved in the initiation of only four schemes (the APP, Climate Savers, EcoPartnerships, and Methane to Markets). Thus the vast majority of TCG schemes in China are foreign in origin. And, notably, in all cases except one (Climate Savers, which included Lenovo as initiating member), the initiating actor was the Chinese central government.
To get a sense of the different kinds of activities that these active TCG initiatives are engaged in, we coded our dataset using a typology used in Abbott (2011). Abbott identifies four different kinds of transnational governance activities: information-sharing and networking (IN); standards and commitments (SC); financing related activities (F); and operational activities (O). SC schemes are those primarily involved in coding and implementing specific rules. These rules may be mandatory in some instances. Most often they are of a voluntary character. As Abbott notes, a large number of these are carbon offset standards designed to regulate the quality of carbon offset credits in voluntary carbon trading markets. Other SC schemes are designed to set standards for emissions accounting and reporting, or set various commitments for individuals, firms, local governments, and so on. SC schemes include the Gold Standard, the Voluntary Carbon Standard, the Carbon Sequestration Leadership Forum, and the Greenhouse Gas Protocol. IN schemes, by contrast, are those explicitly designed to build capacity by sharing knowledge, experiences and information, or which record emissions and commitments. IN schemes include the Carbon Disclosure Project, a CSR and emissions reporting scheme, and ICLEI, which seeks to support sustainability commitments in local governments by serving as conduit for information and technical services. Schemes engaged in operational activities are those which perform certain governance-type services or provide collective goods. These services can include facilitating markets and market access (as does Methane to Markets), piloting demonstration projects and building capacity and expertise (REEEP), facilitating research and development (APP), supporting and helping to initiate other transnational partnerships (ecopartnership.gov), and so on. Finally, financing initiatives are a specific class of operations schemes which help to facilitate, direct, and sometime provide funding directly to climate change related projects.

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7 Several different typologies could have been used. Examples are those developed by Andanova et al (2009) Bulkeley (2010), Dingwerth & Pattberg (2009), etc. We think that Abbott’s typology, which is similar but not identical to Andanova et al (2009) and Bulkeley (2010) captures some of the most crucial features of the initiatives considered.

8 A scheme that engages in only one kind of activity is coded with a value of 1 in the dataset. Of course, some scheme combine these activities. Where an scheme combines two activities, we have coded this as .5 for each activity in the dataset.
Overall, we find that SC schemes are the single largest category of initiative active in China, accounting for 46 percent of the total in 2010, as shown in Figure 3. This is followed in order of importance by IN, O and F schemes, with shares of 28, 16 and 10 percent, respectively. IN schemes were the first to appear in China, with the first O/SC scheme appearing in 2001. Interestingly, the first financing scheme (the World Bank’s Prototype Carbon Fund) does not appear until 2005, when the first projects in China started, five years after it - the first financing initiative - appears in our global dataset, in 2000. As can also be seen, the number of SC grew four fold in 2007, quite late in our dataset, and well after the initial increase in the total growth rate in 2004. This growth is especially clear when one looks at Figure 4, which shows the different kinds of initiatives that have become active each year. In this Figure 2007 stands out as a unique year in the China dataset, with not only the largest single increase in the number of SC schemes but also the largest increase in the number of IN schemes. 2006, similarly, saw the largest single increase in the number of O schemes. Together, this suggests that the three year period 2005-2007 was a crucial one for the growth of TCG in China, beginning with the first financing initiative and ending with the largest year of growth in SC schemes. Following this, the rate of growth begins to taper off in the China dataset, and, as noted above, in the global dataset as well.

How do these figures compare with the rest of the dataset? Figure 5 compares the number of different kinds of initiatives found in the global dataset with the number active in China and the global South, more broadly. As mentioned earlier, there is a total of 75 schemes in the global dataset. A total of 53 those initiatives include at least one actor from the global South, or roughly 70 percent of all the cases. This, notably, is a lower share than the similar figure in Bulkeley’s dataset. She found, by contrast, that around 77 percent of all initiatives had global South participation. This discrepancy may be simply a result of the fact that more extreme values are likely to be found in a smaller dataset. Returning to our data, however, it is clear that while SC initiatives are the largest
category of schemes in the global dataset, in the global South and in China, there is in fact some variation between these. This variation is shown clearly in Figure 6, which depicts that shares of each kind of activity in each of the three groups. While roughly the same, this figure shows that in fact China has a slightly higher proportion of SC schemes than the global dataset and the global South. The share of O schemes in China are identical to the proportion of O schemes in the global South, more generally, and both are higher than the share in the global dataset. Interestingly, financing initiatives in China are nominally lower than the share in the rest of the data. Finally, the proportion of IN schemes in China is lower than in the rest of the global South and the global dataset. Despite these differences, however, what is perhaps most remarkable about these figures is the similarities they reveal across our observations. The various kinds of activities that TCG initiatives are engaged in occur in nearly identical proportions in China, the global South and Globally.

[Figures 5 and 6 here]

Next, we use the dataset to determine the different forms of TCG that are active in China, following the typology developed above, as well as in Hale and Roger (2011). Here, we identify four primary forms of transnational governance: entrepreneurial, partnered, transgovernmental and orchestrated. We code an initiative as “entrepreneurial” if non-state actors (NGOs or private firms) played the leading role in initiating a TCG scheme. An initiative is “partnered” if non-state and sub-state actors jointly create a TCG scheme, each playing an important role. An initiative is “transgovernmental” if only sub-state actors were responsible for its creation. Finally, a scheme is coded as a case of “orchestration” if a state or international organization was responsible for initiating a TCG scheme or provided support to an entrepreneurial, partnered, or transgovernmental scheme after its creation. In the global database, as Figure 7 illustrates, entrepreneurial schemes are the most common form of TCG, constituting 45 percent of the total. Orchestrated schemes are next largest category, with 31 percent, followed by transgovernmental and partnered forms, with 15 and 9 percent of total, respectively. Among the set of schemes active in China some notably differences arise. Most notably,
the share of entrepreneurial schemes constitutes only 39 percent of the total in China. Further, it is only the second most common form of TCG after orchestrated schemes. Within China, it is orchestrated schemes which are the most common form of TCG, comprising nearly half the total (48 percent). Partnered and transgovernmental schemes are, again, the least common, but their shares are now even at 6 percent.

[Figure 7 here]

Finally, we examine the composition of the participants targeted by the various initiatives in our database. TCG schemes may be initiated in a variety of ways, as has been shown above, but the actors or participants that these schemes target - those whose behaviour they are intended to “steer” - are often not those responsible for creating a scheme. The Gold Standard, for example, was created by WWF in 2003, and is endorsed by numerous other NGOs, but it is utilized mainly by market actors. Based upon the main trends in the literature on TCG, we identify five different kinds of target participants: local governments, governments/sub-national governmental units (ministries, agencies, etc.), businesses, carbon market participants, and individual consumers. Local governments include townships, municipalities, provinces, states, and so on. Governmental/sub-national governmental units include the central government and its administrative apparatus. Businesses include small, medium and large size firms. We also include various non-profit organizations in this category. Carbon market participants are also mainly businesses of varying size, but we separate them out from other business participants since they play a unique role in TCG. Finally, a number of schemes such as Carbon Reduction Action Groups (CRAGs) target individuals directly.

[Figure 8 here]

In order to code these in our database, we looked to the de jure statements on websites about the intended targets of the TCG schemes in our database and to de facto participants, as evidenced by membership or participant records or registers. Often, more than one target was identifiable. According to the website of the Climate Neutral...
Network, for example, its participants include regions, countries, cities, companies, and associations and organizations. In this case, we recorded it has having participants in each category except individuals. Following this procedure we found that businesses are largest category of target participant, followed by local governments, carbon market participants, governmental/sub-national governmental units and consumers, respectively, in our global dataset (see Figure 8). By contrast, the target participants in China are quite different. We find that there is a noticeable decrease in the share of businesses compared to the global dataset, as well as a decrease in the share of local governments. By contrast, carbon market participants comprise a much larger share in China than in the global database - jumping from third to first place - as do governmental/sub-national governmental units.

5. Three Cases of TCG in China: Markets, Firms, and Transgovernmental Networks

Having mapped Chinese participation in the growing field of TCG, we now turn to look at the three individual groupings of TCG initiatives that received attention in the literature: carbon markets, transgovernmental networks and transnational corporate governance. This closer look helps to show how the domestic political context shapes Chinese actors' interactions with several broad groups of schemes, ultimately producing the aggregate dynamics that the database captures.

Carbon Markets

Carbon markets represent an innovative way to increase the efficiency of emissions reductions. By establishing a price for “saved” carbon emissions (or the carbon equivalent of other GHGs), markets allow actors to quantify and monetize the value of actions that reduce emissions, and then sell these “credits” to other actors. In theory, such a system reduces the expense of reducing emissions when reductions are costly for some actors (e.g. modern power plants, which already are quite clean), and cheap for others

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9 The Climate Neutral Network also includes carbon market participants in its membership records.
(e.g. low-tech power plants). In practice, carbon markets are quite difficult to operate effectively, with existing markets often suffering from uncertainty and weak governance.\textsuperscript{10}

Carbon markets require two governance functions in order to operate, both of which can be performed by national governments, intergovernmental cooperation, or transnational governance, or some combination thereof. First, some method is required to set a price for carbon. Within states, this can be accomplished by the government setting a limit on how much carbon a company can emit and permitting trading of surplus emissions (“cap and trade”). Firms then must bring their emissions into line with regulation or purchase and equivalent amount of credits from actors who have gone above and beyond their reductions obligations. For example, California and several northeastern US states operate a carbon market of this nature; China has signaled that it will soon begin experimenting with its own province-level programs (NDRC 2011). It is also common for states to cooperate to establish a collective cap on emissions. For example, the EU Emissions Trading System (EU-ETS) is an EU-wide carbon market, and the Clean Development Mechanism (CDM), created by the Kyoto Protocol, operates on a global scale.

However, putting a price on carbon does not require governmental regulation or intergovernmental agreement. Voluntary carbon offsets (VCOs) are credits sold not to comply with regulation, but because individuals or companies desire to reduce their carbon footprint for altruistic, reputational, competition-related, or other reasons. In this way VCOs are a form of market-based regulation similar to corporate codes of conduct, and count as TCG within our definition.

Globally, intergovernmental schemes are the most important generators of demand for carbon reductions, with the EU-ETS, worth some $120 billion in 2010, dwarfing all

others with 84 percent of global value. Still, the CDM is hardly negligible, its primary credits were worth around $1.5 billion in 2010. Voluntary programs, though they had been strongly affected by the 2008-2009 downturn, came in at $1.2 billion. In terms of volume, voluntary markets dealt with some 131 metric tons of carbon in 2010, compared to 7437 tons in compliance markets, with 135 in the primary CDM (World Bank 2011; Peters-Stanley, Hamilton et al. 2011). The voluntary carbon market is thus small compared to the mandatory markets, but, given uncertainty about the status of the CDM beyond 2012 (Yuvaraj and Babu 2011), serves as an important venue for experimentation.

The second governance function required for a carbon market to operate is the quantification and accounting of the carbon credits to be bought and sold. This function is crucial, because credits only have value if they are assessed and allocated in a way that reflects the real reductions in GHGs that a certain action—e.g. building a clean power plant as opposed to a dirty one, reforestation, etc.—entails. These calculations can be extremely complicated, requiring an enormous amount of technical expertise in order to make carbon markets work. They are also politically controversial. Strong standards seek to make sure that projects truly save carbon; weak ones can amount to little more than green-washing.

Again, the standards for calculating the credits deriving from any given project can be outlined by a government, an international agreement, or a transnational actor. In practice, it is this latter group of actors that have played the largest role. Our database identifies a total of 10 transnational carbon offset standards, and many more exist that focus exclusively on the national or sub-national level. Public standards, such as that employed by the CDM, often reflect ideas generated by private experts. The certification process, in turn, is also largely the responsibility of private consultants. The CDM, for example, relies on 55 designated operating entities (DOEs) around the globe to verify reduction projects. These are private firms accredited with the CDM Executive Board according to strict procedures, which then validate proposals for CDM projects and verify

11 For an overview of the complications of properly assessing credits see Haya (2010).
whether they have been implemented accordingly, resulting in genuine GHG reductions relative to a baseline estimate.

Consistent with our theoretical expectations, China’s engagement in global carbon markets is conducted primarily via intergovernmental mechanisms, with the central government playing a lead role. Though private Chinese companies and foreign companies operating in China are significant implementers of projects that create tradable carbon credits, the governance functions that underpin the Chinese market—pricing and accounting—are provided by the central government.

Nonetheless, it is important to note two significant qualifications. The Chinese government’s embrace of carbon markets has resulted from a close partnership between Chinese officials and transnational actors, especially large international NGOs. Such groups have provided the expertise and models Chinese regulators required to successfully engage in CDM projects. Second, China’s ambitious future plans for domestic carbon markets—though still being developed—reflect more orchestrated models of governance than the “command and control” tactics that have often characterized Chinese environmental regulation. Below we outline more specifically the governance mechanisms, public and private, domestic and transnational, that underpin China’s engagement in the carbon trade.

First consider the price-setting function. Here China is largely reactive, selling credits abroad—it is the world’s largest exporter of credits—but buying few of its own. Moreover, China engages primarily in intergovernmental markets, not transnational mechanisms. China is the largest source of emissions credits for the CDM, accounting for 60 percent of the total CERs issued, and 46 percent of all projects registered by the end of 2011 (UNFCCC 2012) China is also a significant source of the CDM credits used under the EU-ETS (since EU-ETS accepts CDM –certified credits; although restrictions on this linkage will increase after 2013). However, China is a far less important provider of voluntary offsets. Country-level data are difficult to obtain, but industry reports suggest
that Asia as a whole provides only 17 percent of global voluntary offsets, which typically offer lower prices than compliance mechanisms (Peters-Stanley, Hamilton et al. 2011).

In contrast to their dominant position in the supply of carbon credits, Chinese entities contribute almost nothing to global demand. While precise data are again difficult to obtain, in 2010, only 5 percent of voluntary credit buyers were located in Asia, meaning that China’s share was quite small (Peters-Stanley, Hamilton et al. 2011). In this way, Chinese firms are behaving in the same fashion observed with voluntary certification measures. When an economic incentive from abroad motivates emissions reductions, Chinese firms are quick to capitalize. But there is little domestic demand for such measures.

Still, elements of a nascent voluntary market are emerging in China. A number of carbon exchange market platforms have emerged in anticipation of future carbon markets (see below). The leading entity, the China Beijing Environmental Exchange (CBEEX), held a sale in June 2011 for 210,000 tons of carbon to an “honor roll” of customers including Baidu, Air China, Merchants Bank, and China Everbright Bank. Though largely symbolic (the amount of credits was equivalent to 0.002 percent of China’s emission in that year), the sale represented an important step toward testing and building a domestic carbon market (Sino-Swedish Centre for CSR Cooperation 2011).

Interestingly, though, this “voluntary” demand is explicitly orchestrated by the Chinese government as a stepping-stone toward a mandatory domestic carbon market that has been outlined in the most recent Five Year Plan. The plan envisions incremental progress toward a mandatory cap and trade system. First, voluntary programs will be established to build the market infrastructure required for carbon trading. Then regional pilots will be launched in specified cities and provinces, perhaps by 2013. Pending adjustments, a national plan could be put in place as early as 2015 (NDRC 2011). The important details of this plan—what sectors are included, how stringent the caps will be, what standards will be used to assess credits—remain very much a work in progress. Several factors, including energy prices and economic growth, will strongly affect the final result. For the
purposes of this paper, however, it is significant that firms in China seem to be waiting to see how the regulatory landscape develops before committing themselves to voluntary offset purchases. Demand for voluntary offsets is not coming from bottom up mechanisms.

Turning to the accounting function required for carbon markets, we also observe the central government playing a leading role. Indeed, China’s engagement with the CDM has been largely a government-led business venture. Schroeder’s research demonstrates that the NDRC acts as the primary facilitator for CDM projects, putting together potential buyers and suppliers in a top-down fashion (Schroeder 2009). Indeed, the section of the NDRC that handles the CDM has set up provincial branch offices in order to a) scout out new business opportunities and inform potential users of the advantages of selling to the CDM and b) ensure central control over these transactions. It also exercises direct control over CDM projects in the approval process (all CDM projects must be approved by the NDRC), and in regulations that allow only companies with 51 percent Chinese ownership or higher to take advantage of the CDM. Perhaps most tellingly, the NDRC charges differential taxes on CDM transactions, imposing a low two percent tax on projects that assist with domestic priorities, such as energy efficiency or infrastructure improvements, but high taxes, over 60 percent, on the controversial and lucrative HFC and PFC projects.

For certification, however, China depends on foreign private companies. Chinese companies have been slow to enter the certification business. According to Schroeder (2009), of the 18 CDM DOEs operating around the world in 2009, 11 worked in China. None of these were indigenous companies. But as the total number of DOEs has grown, several Chinese companies have become official CDM certifiers, including the China Classification Society Accreditation Company, China Environmental United Certification Center Company, and the China Quality Certification Centre. The market for voluntary carbon offsets is more mixed in terms of certifiers, but the majority of the companies that audit CDM projects are also involved in voluntary carbon offset certifications.

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As China begins to develop the infrastructure for domestic carbon markets, we see it turning from the “command and control” that characterizes CDM governance to a more orchestrated model. At the Copenhagen climate summit China launched the Panda Standard, the first domestically developed voluntary carbon standard. The Panda Standard is a form of private governance with strong transnational influences, since it was created by CBEEX, a private Chinese company, and BlueNext, Europe’s largest carbon trader, which is itself backed by the New York Stock Exchange and the Caisse des Dépôts, a quasi-public French social investment group. Subsequently, Winrock International (a US NGO) and the China Forestry Exchange has joined as co-founders.

CBEEX is itself linked with other transnational actors, but also key elements of the Chinese government. The Beijing municipal government was instrumental to its founding, hoping to make the city a center for environmental commodity trading. CBEEX also counts the MEP and the NDRC as “strategy partners”—as well as important state-owned companies like CNOOC, China Guodian Corporation, and the China Everbright Group. The Panda Standard thus perfectly represents how carbon governance brings together the full spectrum of public and private, domestic and international actors.

A similarly innovative approach to governance is represented by the China Green Carbon Foundation (CGCF), a kind of “state-owned foundation” that channels public and private funds to land-use and forestry-based carbon offset projects in China. It takes donations from private individuals and SOEs, invests in carbon-offset projects, and then reinvests the money earned from those projects into more offsetting. The idea is to leverage money for reforestation projects that would not succeed on purely market-based terms. The first donor was the state-owned China National Petroleum Company, which contributed 300 million RMB to the fund’s predecessor in 2007 (CNPC 2006).

Founded in 2010 with the approval of the State Council, the CGCF is under the guidance of the State Forestry Administration (SFA). Despite this officially domestic, governmental appearance, the project has been strongly influenced by a US-based NGO,
the Nature Conservancy (TNC). Partnering with the State Forestry Administration and local authorities, TNC initiated pilot projects for sustainable reforestation in Sichuan, Liaoning, and Shanxi provinces in 2009. Government officials welcomed such projects as an opportunity to bring TNC’s technical expertise and resources to its existing efforts (the central government has pledged to reforest some 40 million hectares by 2020). TNC, in turn, desired to shape the nature of Chinese reforestation away from environmentally poor monocultures and toward ecologically rich forests. Building on this relationship, TNC suggested the idea of a permanent foundation to carry out such projects to the SFA. The CGCF largely reflects this goal. While certainly compatible with the interests of the SFA, and those of the government more broadly, the Foundation also demonstrates how the agency of transnational actors can influence outcomes (Ma and Bedford 2011).

Transgovernmental Networks

Transnational governance by public actors, such as municipalities and regional governments, as well as innovative forms of cross-border governance by international organizations, central governments and sub-national governmental units, have been an important dimension of the global response to climate change. Globally, as our database shows, public actors have been involved in the creation of over half of all TCG initiatives, and 34 percent target public actors specifically. This emphasis should not be surprising. According to Stern (2006, p. 457), for example, human activity in cities is responsible for producing more than three-quarters of all carbon emissions. And, with a large degree of influence over urban planning, waste management, transportation, building regulations and energy supply, they often have significant scope to implement mitigation strategies despite inaction at higher levels of government. Central governments, of course, also possess significant powers to regulated emissions and support local efforts domestically. At each level, creating transnational networks and partnerships can help to galvanize action by setting targets, coordinating action, sharing knowledge and information, and providing financial and technical services (Betsill & Bulkeley 2006).
At the national level, the Chinese government has been an active player in the field of TCG. According to our database, it is one of the only actors in China to have been involved in the initiation of TCG schemes. As noted earlier, the Chinese government helped to found three TCG initiatives: the Global Methane Initiative, in 2004; the Asia-Pacific Partnership on Clean Development and Climate, in 2006; and EcoPartnerships, in 2008. Each are multilateral pacts designed to fostering voluntary cross-border partnerships and cooperation between non-state and sub-state actors, with the ultimate aim of reducing GHG emissions, as well as a number of other goals such as poverty reduction and energy security. China’s motivation for joining each of these schemes has been two-fold: first, as Heggelund and Buan (2009) have discussed with respect to the APP, the aims of each scheme generally overlap with those of the Chinese government, and especially the NDRC. All have a strong focus on promoting clean energy and energy efficiency, thereby contributing to NDRC’s main goals with respect to climate change and energy security. They also contribute to other NDRC goals, such as technology transfer. Second, while the initiatives are non-binding in nature, do not specify distinct targets, and have been criticized by some for their potential implication on UN process, they help to demonstrate proactivity on climate change internationally and deflect some the criticism that China has been subject to in the UNFCCC negotiations. Where transnational initiatives offer such win-win opportunities, we should expect the Chinese government and related sub-national governmental units to be more involved.

Elements of the Chinese government and its administrative apparatus are also targeted as participants, and participation again is largely explained by the fact that the initiatives are largely help to further the agendas of administrative units in China, providing resources, knowledge, and global networks which bolster their activities at the national level. Two examples are the Renewable Energy and Energy Efficiency Partnership (REEEP) and the Global Sustainable Electricity Partnership (GSEP). REEEP is a public-private partnership, originally orchestrated by the United Kingdom, that facilitates a large

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13 It should be mentioned here that the Asia-Pacific Partnership formally closed operations in 2011, although a number of projects and partnerships created under its aegis continue to exist.
number activities designed to promote renewable energy and energy efficiency in order to reduce emissions and increase energy security. It does so, primarily, by initiating and funding large projects, facilitating networks of policymakers, building capacity and disseminating knowledge. All are goals and strategies that overlap considerably with the climate and energy objectives of the Chinese government; and, within China, it has been involved in numerous projects with bodies such as the Ministry of Agriculture, China National Institute for Standardization, the NDRC, the Beijing Municipal Government, and so on. The GSEP (formerly the E8) is one of the oldest initiatives in our database, and its members include some of the world’s largest electric utilities, with the State Grid Corporation of China, the largest electric utility in the world, joining in 2011. It aims to enhance cooperation and develop joint policy frameworks for expanding the role of sustainable energy in the global energy mix. Again, its emphasis on energy issues means that its goals coalesce with Chinese priorities regarding energy and climate change, both domestically and internationally.

Local governments in China, our database shows, have also been involved in transnational networks. Indeed, 17 percent of the TCG initiatives currently active in China target local governments as participants. However, it is notable that this figure is much lower than the world average, a fact which suggests that such initiatives have confronted some barriers in China. Consider, for example, ICLEI, the oldest network of local governments for sustainability. Its Cities for Climate Protection (CCP) program has had considerable success over the years, particularly in Australia and the United States (Betsill & Bulkeley 2006). It has made numerous inroads in developing states as well. However, it has faced considerable challenges in China. ICLEI records only one Chinese member (Shenyang\(^{14}\)), a rate of participation that is far below many other developing countries. In Brazil, for example, 20 members are recorded, and in India, there are 36.

\(^{14}\) The City of Shenyang is one of the largest industrial centers in China. As a result, it has been greatly affected by local and regional air pollution, and has been at the forefront of municipal efforts to improve air quality in China, for instance, by administering a levy on boilers that effectively serves as a local carbon tax. In attempting to tackle local air pollution, city officials have found that such measures can also serve to mitigate carbon emissions. See ICLEI 1997.
Further, while ICLEI has numerous regional offices positioned throughout Asia, there is none for China.

Local governments in China are responsible for enforcing environmental regulations and have a strong ability to affect climate change, with authority over urban planning and transportation policy, air pollution, building codes and clean energy policy (Ferris & Zhang 2005). As such, transnational municipal networks might be expected to be prominent in China, since they provide a number of benefits for those that wish to be more proactive. Involvement may also help to improve the status of municipal with local interest groups. But, in contrast with some certification schemes, participation in networks such as ICLEI is largely driven largely by local factors. In China, as elsewhere, entrepreneurial officials and civic activism have been the main drivers behind environmental action (Koehn 2010; Xie 2009).

However, often, these factors are missing in China, which helps to explain the low levels of uptake. Local officials are confronted by a variety of opposing interests and there is frequently an absence of civic activism from local communities and environmental NGOs to reduce emissions as such (Economy 2007; Koehn 2010). Evaluation of public officials, until only recently, has been tied to economic performance, and less so to environmental pro-activity (Qi et al 2008). Where local populations, NGOs and interests groups are actively engaged with environmental issues, they have tended to focus on local pollution (air, water) problems, and associated health risks, rather than global climate change. Though public awareness of global warming and civic activism on the issue have been growing, especially recently, they both remain limited in extent and impact (Schröder 2011). Thus, the overall incentives for participating in transnational municipal networks like ICLEI are frequently weak, since their benefits may be mismatched with local priorities and involvement in networks that focus on reducing emissions may not help to bolster the position and resources of officials vis-a-vis other groups within the government and civic body that are more concerned with pressing local environmental issues.
This pattern is evident elsewhere. Consider Chinese participation in the C40. Initiated in 2005, the C40 is one of the most prominent transgovernmental initiatives, and its official membership, which accounts for roughly 12 percent of the world’s carbon emissions, includes Beijing, Shanghai and Hong Kong (CDP 2011). All have been active in the network to varying degrees. However, among them, Hong Kong has participated to the greatest extent. Hong Kong is the only C40 city in China to have put forward an official Climate Action Plan, recently proposing to adopt a carbon intensity reduction target of 50-60 percent by 2020 relative to its 2005 emissions levels. It has, also, become a member of the C40 Steering Committee after its highly successful hosting of the “Climate Dialogue” International Conference on Climate Change, in 2010. Beijing and Shanghai have, by contrast, participated less. Although both have undertaken actions that contribute to increasing energy efficiency and improving local air quality, most notably Beijing in the lead up to the Summer Olympic Games in 2008, neither have proposed official Climate Action Plans. Both, also, were among the small group of states that did not participate in the C40’s recent survey of its members’ activities undertaken by the Carbon Disclosure Project (CDP 2011).

Hong Kong’s relatively proactive stance in TCG seems to have been significantly driven by local civil society. Civic Exchange, a well-connected local think tank, played a significant role in persuading the Hong Kong authorities in hosting a C40 summit and in organizing events for businesses and civil society groups around it (Lawson 2011). This was an important way for NGOs to affect policy, as Hong Kong’s relatively ambitious Climate Action Plan has been attributed to the peer pressure the C40 Summit generated (Lawson 2011). Interesting, though, researchers have not found this dynamic to extend to firm-level actions (Chu and Schroeder 2010).

Interestingly, one of the arguably more successful transnational initiatives focusing on municipalities is the Clean Air Initiative (CAI), a registered UN Type II Partnership orchestrated by the World Bank, USAID and the Asian Development Bank in 2001. Its membership includes a number of China’s largest cities, such as Changsha, Chengdu, Chongqing, Guangzhou, Guiyang, Hangzhou, Harbin, Jinan, Luoyang, Lanzhou,
Qingdao, Tianjin, and Urumqi. Interestingly, these cities did not request to join the initiative themselves. Rather, they were jointly selected by CAI-Asia, the NGO that acts as a secretariat for the network, and SEPA. Moreover, CAI-Asia established its Beijing office in partnership with SEPA (Peng 2011). CAI, therefore, represents a fascinating example of environmentally oriented national officials partnering with a global network to enhance their leverage vis-a-vis local actors, as classic case of TCG by orchestration. One of its clear advantages has been that its governance activities focus more directly on air quality management and identifying co-benefits for reducing emissions, issues of direct concern to local government officials in China. This potentially helps to explain why it has achieved a modest degree of success in China. By offering local officials technical advice and “best practices” that were of practical use to them, CAI (and SEPA) were able to galvanize local action on climate protection (Peng 2011).

Having said that, it is important to note that broader incentives for participation by local governments in China may be changing. As Qi et al. (2008) explain, until recently, performance evaluation was seldom tied to climate change, energy or environmental concerns. Efforts along these lines were, therefore, largely driven by local demand, leading to a limited degree of success for schemes like the Clean Air Initiative, which more directly addressed local issues. However, as carbon emissions and energy efficiency have become increasingly tied to officials’ performance evaluations, we may expect demand for initiatives that focus more explicitly on climate change and energy to increase in the future.

Transnational Corporate Governance

Initiatives that target and/or are formed by corporations constitute the most significant dimension of TCG globally. According to our dataset, entrepreneurial governance schemes - those created by non-state actors (such as NGOs and businesses), without assistance from states or international organizations - are the most common form of TCG, accounting for 45 percent of the total. Similarly, non-state actors are the main participants that TCG initiatives attempt to steer. Within China, non-state actors have also been the
primary targets, with businesses, carbon market participants and individuals accounting for nearly 70 percent of the total. Above, we have already discussed initiatives that target carbon market participants, which, we argue, are a unique class of non-state actors deserving of special attention in any study of TCG. Here, we focus on schemes that attempt to steer the behaviour of Chinese businesses.

At first glance, many of the pressures driving these initiatives elsewhere may be present in China, leading us to expect similarities in levels of adoption. Chinese industries are frequently tied into international supply chains, and on this basis may find themselves compelled to join corporate governance schemes. In other domains this has certainly been the case. ISO 14001, for example, has been widely adopted in China, largely due to pressure from supply chain leaders, customer preferences in export markets and demands from foreign investors (Christmann & Taylor, 2001, 2005).

But business in China is also fraught with conflicting incentives that may reduce the scope for effective TCG initiatives in the corporate sector. First, Chinese businesses often see little value in addressing environmental issues. One study has estimated that only 18 percent of Chinese companies felt they could take environmental concerns into account in their business practices while continuing to thrive economically (Economy 2007 p.53). Except for a few leaders, such as Lenovo and Haier, environmental protection has been seen as too burdensome, and the value of corporate social responsibility has not been apparent. In the absence of some external pressures or incentives, therefore, Chinese businesses are unlikely to be actively involved in TCG. Second, when the firms with the most capacity to affect climate change are state-owned, we should expect intra-state bargaining, relative to private-private bargaining and various pricing effects, to play a more important role in the success of TCG initiatives. While the literature has shown that private companies linked to export markets and FDI have been quick to adopt transnational governance schemes, we should not expect similar behavior from electric utilities, construction firms, or the like. Such firms, we argue, are likely to be relatively passive in their participation in TCG, or even resistant when ever TCG schemes conflict with intra-state priorities.
With some omissions, corporate governance schemes in the domain of climate change can be reduced to two kinds. The first works primarily through the setting of voluntary or mandatory standards and commitments and are adopted primarily as a result of market forces (Cashore 2002). The second is also intended to operate through via market forces works but focuses on the provision of information, especially via corporate reporting. Globally, the former and the latter kinds of market-driven governance mechanisms each account for roughly 15 percent of the initiatives in our database.\textsuperscript{15} Within China, however, the former have made fewer inroads overall, accounting for slightly less of the total (12 percent), whereas the share of the latter roughly reflect the global average. Even this figure is inflated somewhat as a result of the method of calculation and complicated by the presence of many state-owned corporations in China. For example, according to our database the GSEP counts as an SC scheme, targeting both public actors and private businesses, in this case, utilities. However, in China, the only participant is the China State Grid Corporation, a state-owned corporation. Standards and commitment-type schemes that are active in China and include genuinely private participants are largely limited to two initiatives, Climate Savers, the Climate Group (Member Principles) and the Greenhouse Gas Protocol, which is being used as the basis for local carbon accounting schemes. While it is notable that a Chinese firm, Lenovo, was one of the founding members of Climate Savers, as mentioned above, that program has only attracted five to six members in over three years of activity (Yan 2011).

Though IN corporate governance schemes are slightly more common according to our database, it would be a mistake to regard these as more successful on balance. A closer look at IN schemes active in China, such as the UN Global Compact - Caring for Climate, the Carbon Neutral Network, the Carbon Disclosure Project (CDP) and the Global Reporting Initiative (GRI), suggests that they have had mixed results. In terms of uptake, the GRI may be the most successful of the corporate reporting initiatives in China. A total of 278 CSR reports have been submitted by Chinese firms, including a few

\textsuperscript{15} These figure are the shares of SC and IN initiatives that target businesses specifically, excluding carbon market participants.
of China’s larger private and state-owned businesses, since the GRI’s engagement in China first began in 2007. However, the quality of reporting has been highly uneven in China, with only 29 reports above an A application level, and only 42 reports were checked by the GRI or by a third party. Moreover, these figures overstate the real number of corporations involved, with multiple reports submitted by the same corporations in different years. The majority of the reports that received higher application levels also all came from the same small group of firms, largely from the service sector. All these figures are much lower than the world average for 2010 (GRI 2010). The CDP has also faced tremendous challenges with reporting in China. In 2011, of 100 Chinese companies invited to participate, only 11 opted to answer the CDP’s annual questionnaire, a number that is substantially below the average response levels elsewhere (see CDP 2011; Kim & Kyon 2011). Those that did were mainly from the banking industry. Trading and distribution companies, and firms from the hotel, restaurant, leisure, metals and mining, financial, construction, chemical, airline, and industrial sectors uniformly did not respond.

The distribution of participants in the most recent CDP questionnaire and in the GRI towards services sector firms and away from sectors such as construction, mining and chemicals is a trend plaguing other carbon reporting initiatives active in China. For example, one effort to develop a common energy and emissions reporting framework specifically for China, the Energy and Climate Registry, which is based upon the Climate Registry and Greenhouse Gas Protocol, has so far found it difficult to attract participants in heavy industry. Only five Chinese companies have been required in nearly three years of operation, and these are unwilling to publicly disclose their involvement (Li 2011). Its developers have found that most are unwilling to take part mainly due to concerns about having to divulge sensitive technical data about production processes and business practices that may give an edge to competitors, especially when the reporting scheme originated from outside of China and is not directly supported by the key ministries in the Chinese government (Zhu 2011). Many companies have also reported that they are waiting to see what rules are made mandatory by the government before agreeing to voluntary disclosure (Li 2011). Similar suspicions were at the root of World Steel
Association’s (WSA) failure to include Chinese steelmakers in its Climate Action Initiative emissions reporting scheme (see Marsh 2011). Despite support from Anshan Iron & Steel, one of China’s largest steelmakers, whose chief executive also presently serves as the chairman of the WSA, Chinese steel officials vetoed participate in the scheme, which includes over 200 participating plants outside of China.

6. Conclusion: Prospects for TCG in China, and thus for TCG in General

Chinese actors are important players in TCG, and TCG, in turn, seems to have had an important impact on Chinese climate policy. The nature of Chinese actors’ participation, however, differs in some respects from conventional theoretical expectations. At the aggregate level, our database shows a number of ways the composition of schemes active in China differs from global patterns, and even patterns in the global South. In China, we have found that orchestrated schemes are far more common than elsewhere, that entrepreneurial schemes are relatively less common, that local governments have participated less in TCG than their counterparts, that the central government and its administrative units have participated to a greater extent in TCG than elsewhere, and, finally, that carbon markets have been more important in China than elsewhere.

These differences derive, we have argued, from the domestic political context in which Chinese sub- and non-state actors operate. Though the centralized, authoritarian political system and state-led economy dampen the agency of many potential creators of, or participants in, TCG to pursue that strategy, the relative pluralism that characterizes Chinese climate politics also increases the possibility and utility of TCG as a strategy. Often, it is the incentives that the state creates, and the opportunity structures that open up as a result of its fragmented nature, which determines the shape of TCG participation. As we have seen, TCG initiatives focusing on local governments have faced considerable challenges. As a result of the internal politics of the state, local officials have so far had little incentive to join networks like ICLEI, which over their twenty years of operation have acquired thousands of members throughout the world. Corporate reporting initiatives, which have been an important form of governance in the domain of climate
change, similarly appear to have been affected by the Chinese context. They have been relatively less successful with strategic industries and when initiatives threaten to disclose sensitive information. They have been more successful where the level of reporting is more flexible, as in the GRI.

These findings cast doubt on the hopes of TCG’s more enthusiastic supporters that measures like corporate codes of conduct or city-level programs will have a large impact on China’s growing emissions. Some of the kinds of initiatives that have been most common in the field of TCG, and highly effective in more liberal political contexts, face significant challenges without support from key veto players within the Chinese government. And the goals of some TCG schemes may have been mismatched with local priorities. A greater effort may therefore be needed in the future in order to create new schemes and adapt existing ones to make them more acceptable within the Chinese context, and to emphasize their co-benefits. In many respects, however, shifts within the Chinese state itself on the issue of climate change may augur well for some initiatives, especially those that focus on municipalities. As we noted above, changes in local officials’ incentives as a result of the growing importance of local emissions and energy efficiency targets may widen the scope for such schemes in the future. The ambition to develop carbon markets in China, if realized, will also likely raise the incentives for participation, and, as has occurred elsewhere, may even make it likely that Chinese actors will engage in the creation of TCG schemes to a greater extent. Thus, while the domestic context in China has so far had, on balance, a dampening effect upon Chinese involvement in TCG, changes in this context might also make TCG more important in the future.
Bibliography


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### APPENDIX 1.

<table>
<thead>
<tr>
<th>NAME</th>
<th>DATE OF INITIATION</th>
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<td>2000</td>
<td>2007</td>
<td>IN/F</td>
<td>orchestration</td>
</tr>
<tr>
<td>VER+</td>
<td>2007</td>
<td>2009</td>
<td>SC</td>
<td>entrepreneurial</td>
</tr>
<tr>
<td>Voluntary Carbon Standard</td>
<td>2007</td>
<td>2007</td>
<td>SC</td>
<td>entrepreneurial</td>
</tr>
</tbody>
</table>
APPENDIX 2.

Figure 1. Cumulative Totals of Initiatives, China Versus World, 1990-2010

![Bar chart showing initiatives active in China and globally from 1990 to 2010.]

- Number of Initiatives Active in China
- Number of Initiatives Globally

Figure 2. Chinese Participation in TCG, Number of Initiatives

![Bar chart showing Chinese participation in initiatives.]

- Active Initiatives (1+)
- Active Initiatives (2+)
- With Chinese Initiating Actors
Figure 3. Composition of Initiatives Active in China, By Kind of Initiative, 1990-2010
Figure 4. Kinds of Initiatives Active in China, By Date
First Active, 1990-2010

Figure 5. Kinds of Initiatives, Global South Vs. China Vs. World, 2010
Figure 6. Kinds of Initiatives, Global South Vs. China Vs. World, 2010

Global South

China

World

IN SC F O
Figure 7. Forms of TCG, World Versus China

Figure 8. Target Participants, World Versus China

Legend:
- Entrepreneurial
- Partnered
- Transgovernmental
- Orchestration
- Local Governments
- Businesses
- Carbon Market Participants
- Governments/Sub-national Governmental Units
- Consumers