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The Clean Development Mechanism in China: Institutional Perspectives on Governance

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Abstract

The Clean Development Mechanism (CDM) has grown into a central feature of the global carbon market. Besides a range of normative and evaluative research into the CDM, scholars have applied international relations perspectives in which the CDM has been analysed as an example of global governance, engaging multiple actors across administrative levels. This paper focuses on a national government and how its activities affect the CDM market. We draw on an empirical case study of China to demonstrate how governmental action can be understood in light of national institutional factors, defined as normative, cognitive, or regulative elements. The paper describes and explains the extensiveness of Chinese government action regarding the CDM and discusses its consequences for the market.

Keywords: climate change; Clean Development Mechanism; China; national governance; institutional theory.

Introduction

Within the United Nations Framework Convention on Climate Change (UNFCCC), one of the most prominent policy instruments established to date to control greenhouse gas emissions in developing countries is the Clean Development Mechanism (CDM). By allowing industrial countries, with obligations to reduce their emissions under the Kyoto Protocol, to invest in projects in developing countries, the mechanism aims to achieve cost-efficient emission cuts while contributing to the transfer of climate-friendly technologies and sustainable development more broadly. Although the mechanism has been criticized for contributing insufficiently to these objectives, as well as for concentrating on a few host countries, high transaction costs, and time-consuming administrative procedures, it has become a vital component of the global carbon market and central to the international climate regime.

A review of the CDM literature (Paulsson 2009) has revealed that most scholarly interest so far has either been normative in nature, concentrating on how the mechanism should be designed or reformed, or evaluative in nature, examining how it is working in its current shape. For example, research has examined whether the CDM leads to emission reductions that are additional to business as usual (Pearson and Shao Loong 2003), the extent to which it contributes to its associated objectives of technology transfer (de Coninck et al. 2007, Dechezlepretre et al. 2008) and sustainable development (Sutter and Parreño 2007), and how it should be designed or reformed (e.g. Francois and Hamaide 2011, Michaelowa 2005, Streck and Lin 2008). In parallel, in other studies, scholars have considered how the CDM instrument is governed; this more theoretical research stream has primarily examined agency, that is, the governmental and non-

governmental organizations involved in the global governance of the CDM market across multiple administrative levels (Bäckstrand 2008, Pattberg and Stripple 2008, Streck 2007).

The present paper contributes to the literature on CDM governance in two main ways. First, scholars have paid relatively scarce attention to how this policy instrument, established via intergovernmental collaboration on climate change, plays out at the national level. Although the role of global (Flues et al. 2010) and local (Qi et al. 2008) actors in CDM governance are evident, we make a distinct analytical demarcation in this paper to the national level where the central government is an influential actor in implementing the CDM and determining country-wide rules-of-the-game. Empirical evidence indicates that many CDM-related activities require and encourage host country government involvement, for example, through the Designated National Authorities (DNAs) and CDM service centres. In fact, the UNFCCC has left significant room for national interpretation of one of the CDM's explicit goals, i.e. ensuring that it contributes to sustainable development. Citing fears of environmental imperialism as well as the right to self-determine what constitutes national development priorities (Sutter and Parreño 2007), national governments have exploited this interpretive flexibility to bend the CDM towards overarching political priorities and objectives. Accordingly, we need to view the mechanism as shaped in a state–market relationship. Second, in examining governance, we should not only pay attention to the actors, but also recognize the social structures, rules, and practices playing a role in guiding the behaviour of these actors. We propose that the CDM literature could benefit from employing institutional theory as this paper does. Institutional theory scholars have demonstrated how rules and regulations are coloured by the norms and values arising in certain social contexts,

often in a national context, which adds to our reasons for including the national dimension of CDM.

The starting point of this paper is the claim that the national context is rewarding for the study of the CDM. We offer an alternative understanding of the mechanism by analysing how it has been implemented at national level within a specific country and what consequences it has had. In doing so, we pay particular attention to how certain governmental features colour its practical implementation. We discharge this task by means of an empirical account of the Chinese CDM market. China holds the undisputed position as the largest CDM market in the world (UNFCCC, 2011a; UNFCCC, 2011b). In addition, it is a country with a longstanding tradition of central planning and governmental authority that has only recently begun opening up its economy (Hoffmann and Enright 2008). Since market logic is usually seen as challenging state intervention, and since the CDM is an obvious case of a market-based instrument in contemporary climate governance, China constitutes a fascinating empirical setting in which to study how an internationally established policy instrument such as the CDM influences government activity at the national level. The research question of this paper can be formulated as follows: How has the Chinese government attempted to govern the CDM market, and with what consequences?

We continue this paper by briefly presenting the background of the CDM. Thereafter, we illustrate how previous research has described it and argue for the benefits of concentrating on domestic governmental activities from an institutional perspective. The empirical section indicates how the Chinese government has attempted to govern the mechanism, for example, by

developing and applying tools for determining broadly stated criteria with which to select CDM projects, and how the government has shaped what projects become the core of the CDM market in China. We demonstrate how scholars can benefit from recognizing that the mechanism leaves more room for national implementation and government influence than is currently generally perceived and how an institutional perspective is useful in exploring this. Finally, we discuss the pros and cons of state–market interplay in relation to the future development of the CDM.

Empirical Background

In tandem with emissions trading and joint implementation, the CDM seriously entered the global climate change regime when it was included in the Kyoto Protocol in 1997 as one of the three flexible mechanisms. Today, the CDM is an important part of the global carbon market, artificially created to mitigate climate change. Its purpose is dual: first, it allows for countries with obligations under the Kyoto Protocol to make and take credit for cost-efficient reductions of emissions abroad, and second, it should lead to the transfer to developing countries of climate-friendly technologies and sustainable development. An important rationale for establishing the mechanism and bringing it into the overall international climate policy framework has been to allow for the production of “off-sets”, that is, credits countries with obligations to reduce their GHG emissions can take into account when demonstrating their mitigation efforts. The Kyoto Protocol created a demand for carbon credits by putting a price on carbon dioxide (CO₂) and demanding that certain sectors hold CO₂ permits corresponding to their emission levels to be allowed to operate.

The CDM was developed and refined in the immediate post-Kyoto period and the first CDM project was registered in 2004 (Paulsson 2009). Since then, the number of CDM projects has increased rapidly, although the certified emission reductions (CERs) generated still constitute a small fraction of global emission cuts. The geographic impact of the CDM has been described as fragmented, since its current market includes only a limited number of countries. Approximately 65% of registered CDM projects are hosted by China or India (UNFCCC, 2011a) and 92% of the CERs are issued by four host countries only: China, India, the Republic of Korea, and Brazil (UNFCCC, 2011b). These countries, where the emission reductions take place and carbon credits are issued, are referred to as host countries.

A brief understanding of its overall structure is necessary to grasp the governance structure of the CDM. The framework of the mechanism is closely linked to the UNFCCC process (CDM Rulebook 2011). The Conference of the Parties of the UNFCCC, also serving as the Meeting of the Parties to the Kyoto Protocol (COP/CMP), is the highest authority of the CDM. The CDM Executive Board under the UNFCCC supervises the mechanism. A number of accredited firms, so-called Designated Operational Entities (DOEs), make sure that project activities are validated, verified, and certified. Each host country is also required to appoint a Designated National Authority (DNA) to ensure that the project contributes to sustainable development. CDM projects generate CER credits, each equivalent to one tonne of CO₂. These CER credits can be traded, and used by industrialized countries to help meet their emission reduction targets specified in the Kyoto Protocol. The key document involved in validating and registering a CDM project activity is the project design document (PDD), one of three documents required for a CDM project to be registered, along with the DOE validation report and the letter of approval

from the DNA. The PDD is reviewed by the DOE during the validation process to ensure that a project meets the requirements for validation.

Whereas the international component of the CDM is clear, the mechanism has been described as existing “at the intersection of public international law and domestic law” (Soltau, 2009:128).

Indeed, empirical evidence from the UNFCCC suggests significant room for national interpretation. For example, the Kyoto Protocol outlines an objective of promoting sustainable development, but it is the responsibility of each host country to “confirm whether a clean development project activity assists it in achieving sustainable development” (UNFCCC 2002).

In practice, this permits a variety of national interpretations of the concept of “sustainable development”, which Hopwood et al. (2005) and Mobjörk and Linnér (2006) describe as vague and multifaceted. In a review of how CDM projects relate to sustainable development, Olsen (2007) identified three analytical perspectives: first, in the early days, forward-looking studies assessed its potential for investment, greenhouse gas (GHG) reduction, and development; second, sustainability impact studies presented results, often depicted as trade-offs between emission reduction and development, based on checklists, multi-criteria analysis, and sector applications; third, research presented local experiences of CDM projects mainly addressing the negative aspects of project activities. Besides setting sustainable development objectives, these studies have generally depicted a relatively passive role for national government. As demonstrated by Olsen and Fenhann (2008), the specific objectives of sustainable development vary considerably across host countries, allowing substantial latitude for interpreting what is deemed nationally appropriate. The present paper, however, will demonstrate that national

interpretations of and opportunities to govern the CDM markets are by no means limited to defining the term sustainable development.

Grasping CDM Governance

Recent increased interest in the CDM has spurred a range of studies of the topic, particularly of the normative and evaluative kinds, as exemplified at the outset of this article. Fewer studies have delved into the mechanism in a more descriptive or explanatory way to examine the activities to which it has given rise and how some of these shape and govern it. In fact, much discussion in the field is based on the idea that the CDM, like other market-based mechanisms on the climate policy menu, is governed by fundamentally invisible market forces, through supply and demand. Instead, we argue that we need a broader understanding of the specific, and intentional, actions shaping, constituting, and developing the CDM. In the words of Stripple (2010:69), the mechanism “has not emerged spontaneously around the world but has been crafted and shaped by political decisions”. Thus, we align ourselves with scholars who focus analytical attention on the organizations and activities governing it, rather than being satisfied with perceiving the CDM as a purely market-driven mechanism.

To date, most research into CDM governance has emphasized the multitude of actors involved in its global governance. For example, Streck (2007) described its international governance structure, the key organizations involved, and its administrative functions. Some notable examples have analysed the decision making practices of one particular international actor, the CDM Executive Board (Flues et al. 2010). Pattberg and Stripple (2008) portrayed the CDM as governed across political levels and analysed public and private authority. In a similar vein, the

CDM has also been described as the delegation of authority from public to private actors and an example of an area in which public–private partnerships are formed (Bäckstrand 2008).

Furthermore, Lövbrand et al. (2009) conceptualized the CDM as part of a shift from traditional state-controlled regulation towards a softer form of public–private regulation. These perspectives link to a larger debate in the international relations literature emphasizing the multi-agency nature of contemporary policy-making, such as theories of multi-level governance (Marks et al. 1996, Hooghe, 1996, Bache and Flinders 2004), transnational governance (Katzenstein et al. 1998, Andonova et al. 2009), transnational networks (Betsill 2004), or transnational pluralism (Cerny 2010). Though any policy initiative inherently involving several countries and societal actors requires organizational interaction and cooperation, we must not forget to analyse the role of specific actors in this process.

Furthermore, previous scholarly attention has been paid to assess national or regional conditions for CDM projects in general or for specific renewable energy technologies (e.g. Schneider et al. 2010) as well as the importance of the socio-political and historic framework conditions (Benecke 2008). These studies have not addressed the role of the national governmental agencies for shaping and determining a specific output. Local case studies have also demonstrated how CDM projects impact on, inter alia, local rural development (Purohit and Michaelowa 2007), poverty (Sirohi 2007), and employment (Sutter and Parreño 2007, Umamaheswaran and Michaelowa 2006) but they have not uplifted the dynamics of the national level actors in shaping the CDM. Indeed, both empirical evidence and theoretical propositions suggest that, despite globalization, national governments have a significant function in global environmental governance by making the policies that implement international environmental agreements

(McBeath and Rosenberg 2006). Previous studies of another of the flexible mechanisms, emissions trading, suggest that governmental structures are essential for artificial markets to take hold (Engels 2006, MacKenzie 2009). These studies inform us that markets are not only assisted by governments, but are actually so dependent on them that they could not function without them.

In analysing CDM governance, however, we should recognize the longstanding proposition that the actors and activities making up any social life are influenced by overarching social structures. We argue that useful theoretical perspectives can be found in institutional theory, a dominant approach to organizational studies (e.g. Greenwood et al. 2008, Powell and DiMaggio 1991). Institutional theory has previously inspired scholars to analyse regulation and governance as coloured by widespread norms and understandings of appropriate behaviour and action (Djelic and Sahlin-Andersson 2006). This theory treats all mechanisms that prescribe “rules-of-the-game”, be they normative, cognitive, or regulative in nature (Scott 1995), under the common term of “institutions”. These social schemes have cultural ties, and they inform organizations, including governments (Finnemore 1996), how to act in a way in line with widespread norms and values of appropriate behaviour (Meyer and Rowan 1977).

Institutional theory has proved useful in understanding the values and ideas influencing the climate change activities of particular organizations (e.g. Delmas and Toffel 2004, Hoffman 2007, Levy and Kolk 2002) as well as climate policy design and governance in multi-agency settings (Buhr 2008, Engels 2006). For example, the increased use of market-based instruments in environmental policy-making in general (Jordan et al. 2003) can be understood as a general

trend in which policy-making is underpinned by liberalistic ideas. Djelic (2006) informs us that the widespread use of markets is a societal trend that reflects institutional forces. Furthermore, Levin and Espeland (2002) argue that the carbon market, and its commensuration of air, was a social construct with important institutional cornerstones. In its entirety, the CDM can thus be seen from an institutional perspective in the sense that it reveals the contemporary, widespread perception that market-based mechanisms are an appropriate way to address climate change.

A key argument in institutional theory is that organizations and their activities are embedded in institutional contexts, “i.e. the rules, norms and ideologies of wider society” (Meyer and Rowan, 1983:84). These institutional contexts have been demonstrated to exist at various analytical levels, of which the national has been emphasized as particularly important (Thelen 2004, Westney 1987). This national institutional component of transnational governance has been highlighted in studies of regulation in other empirical areas (Djelic and Quack 2003, McNichol and Bensedrine 2003, Morgan 2006), strengthening arguments that national frameworks have remained strong, despite the transformation brought about by globalization (Hirst and Thompson 1996). In addition, important institutional reciprocal interplay occurs between the national and transnational levels (Djelic and Quack 2003), while actors remain influenced by their national belonging (McNichol and Bensedrine 2003).

Both theoretical and empirical evidence suggest that a significant part of CDM governance will likely be national in character. Whereas local governments in China, including provinces, have recently taken a number of initiatives to address climate change, the central government remains at the centre of climate policy efforts in the country (Qi et al. 2008) and this paper focuses its’

analytical attention to the nation-state. Even though Shin (2010) performed a rare study that empirically described the governance structure of the mechanism in China, he merely described the administrative units involved rather explaining how the CDM is institutionally coloured and adjusted to national conditions. Also related to climate governance, Zhang et al. (2009) provided an illuminating study of how the Chinese government has intervened to influence a renewable energy sector. However, we still know little about how such governmental activities are influenced by the national institutional context. Being the country with the largest share of the CDM market, the Chinese context offers important empirical insights into how a national government has attempted to affect the market and the institutional frames in which it operates. This study focuses on this understudied research area.

Methodologically, the empirical section of this paper builds on two main pillars. Firstly, we draw on a series of studies within the EU-China CDM Facilitation Project, an initiative by the European Union. The project was carried out between 2007 and 2010 with the aim of strengthening the CDM in China and all reports from the project are available online (EU-China CDM Facilitation Project 2011). The project identified, through a qualitative data collection and analysis, of interviews and documents, a rich set of examples of how the Chinese government has attempted to govern the CDM at national level. Secondly, a minor round of data collection from secondary sources was carried out in 2010 and 2011 for the purpose providing an updated picture of the national and international climate policy setting examined here. We make a clear reference to the project in introducing to the part of the empirical section that builds on the research within the EU-China CDM Facilitation Project.

The CDM Market in China

Climate Policy and the CDM in China

It is generally acknowledged that China is playing an increasingly important role in international climate negotiations. The country is actively involved in the global climate talks and China is broadly agreed to be a critical country to involve in any future global agreement on climate change (Hallding et al. 2009, Lewis 2010). Halfway through the last decade, China surpassed the U.S.A. as the largest emitter of CO₂ in the world (United Nations Statistics Division 2011). Projections foresee that energy use and GHG emissions from China will grow rapidly in coming years (International Energy Agency 2009). This will not only threaten attempts to stabilize the level of GHGs in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system, but will certainly bring opportunities to make substantial emission cuts. Recent emissions projections forecast that national policies and measures in China can bring about approximately 25% of the global emission reductions needed by 2020 – “placing China at the forefront of global efforts to combat climate change” (International Energy Agency, 2009:4). Moreover, there is rising awareness that China is not only a significant emitter of greenhouse gases but also, as the effects of climate change become evident, a country that will likely experience serious impacts of global warming in terms of droughts, flooding, and rising sea levels (National Development and Reform Commission 2007). In sum, these preconditions serve as an important basis for the range of activities now taking place in China, despite the fact that the country does not have any formal commitments to reduce its GHG emissions under the Kyoto Protocol.

One example of recent domestic climate change activities in China is the announcement of the first-ever national target related to CO₂ emissions: a carbon intensity target in addition to an energy intensity target (Lewis 2010). Well in advance of the UNFCCC COP/CMP in Copenhagen in 2009, a resolution was passed (Standing Committee of National People's Congress of China 2009) which paved the way for the Chinese announcement of a mid-term target, announced as voluntary and unconditional, to reduce CO₂ emissions per unit of GDP by 40–45% by 2020 compared with the 2005 level. Nevertheless, the main concern of China in relation to climate change is its impact on economic and social development and its relationship to its energy security (Tsang and Kolk 2010). The Chinese domestic climate and energy policy framework builds on a three pillars: first to accelerate the improvement of a more climate-friendly energy mixture; second to enhance science and technology capacity; and third to improve market conditions and to facilitate market dynamics for the market-based mechanism for more efficient energy production and use (EU-China CDM Facilitation Project 2009). At a more concrete level, the Hu-Wen administration has also set targets for energy efficiency and renewable energy in order to reach the energy security objective, including 20% reduction of energy intensity, 10% reduction of pollution discharge by 2010 compared with the 2005 level, and 15% renewable energy in the primary energy mix by 2020 (Hallding et al. 2009, EU-China CDM Facilitation Project 2009).

The CDM is an important element of the Chinese national climate policy mix and it is said to have sparked the entire climate debate in the country (Shin 2010). Be this as it may, the enthusiasm of the Chinese for the mechanism was described as low before the entry into force of the Kyoto Protocol in 2005 (Zhuang 2006). In 2007, the National Development and Reform

Commission (2007:25) claimed that “China is ready to strengthen international cooperation of addressing climate change, including cooperation of Clean Development Mechanism and technology transfer”. China has staked its interests firmly on the benefits that the CDM could bring in terms of technology transfer and sustainable development. The mechanism has also been seen as a starting point for more comprehensive plans to address global climate change, recognizing the principle of common but differentiated responsibilities (EU-China CDM Facilitation Project 2009). It has also been proposed that the inflow of CDM investment into China is not as politically sensitive as other climate-related market-based mechanisms would have been, such as international emissions trading, since the CDM may add to foreign direct investment projects and fuel domestic economic growth (Zhang 2007).

The Chinese National Climate Change Programme (NCCP), the Science and Technology Actions on Climate Change, the White Paper on Climate Change Policies and Actions issued in October 2008, and the resolution of the Standing Committee passed in August 2009 are key documents outlining the national strategy and the measures to be taken. The mechanism is cited in these documents as an important element of national mitigation efforts and is also identified as a key link to international cooperation. According to the White Paper (State Council Information Office 2008), CDM projects have “effectively boosted the development of China’s renewable energy, accelerated the improvement of energy intensity, and greatly enhanced the awareness of the seriousness of climate change” (ibid.: 22). Moreover, China holds that the CDM should continue after the first commitment period ends in 2012, but emphasizes that “the host country should play a more important role in developing CDM projects” (ibid.: 22).

In fact, China is the giant in the CDM world. As of January 2011, 42% of registered projects worldwide were hosted by China (UNFCCC, 2011a). In addition, Chinese CDM projects are on average larger than those in the rest of the world, in effect making China the dominant supplier of CER credits in the world (EU-China CDM Facilitation Project 2009, UNEP Risoe Centre 2011). The main buyers of CER credits are European public and private organizations (EU-China CDM Facilitation Project 2009). Understanding the Chinese climate policy context provides a rewarding vantage point from which to grasp the many activities in the country relating to the CDM. Next, we present the variety of regulatory instruments used by the Chinese government at national level to attempt to govern the mechanism domestically, based on observations made in the EU-China CDM Facilitation Project (2011). As we will demonstrate, despite the general opening of the Chinese economy, the state is substantially involved.

Chinese Governmental CDM Engagement

A first example of the governmental ambition to retain control of the CDM is that all projects aspiring to be implemented in China have to be approved by the relevant government departments. A number of Chinese government agencies are directly involved in managing CDM projects, including the National Leading Group on Climate Change, the National CDM Board, the National Development and Reform Commission, the CDM Project Management Center, and the CDM Fund Management Center. Among these, the National Development and Reform Commission serves as the DNA for CDM in China; this appointment makes it responsible for approving CDM project applications.

As is common in novel policy, the Chinese government has issued guidelines for the CDM, most notably through the “Measures for the Operation and Management of Clean Development Mechanism Projects”, as well as a number of supporting policy guidelines and notices. In addition to these, specific CDM-related guidelines exist. The project activities must comply more generally with Chinese laws and regulations as well as with domestic sustainable development strategies and policies. Moreover, the projects should meet the general requirements of national economic and social development planning.

The government also financially supports CDM projects in China. The government has set up a CDM Fund with the objective of supporting and promoting its domestic National Sustainable Development Strategy, particularly national actions to combat climate change. The view of the Chinese government is that these funds should be used to help China meet its broader climate and sustainable development objectives and not be limited only to CDM activities. The CDM Fund is financed through several sources, such as via the levy on CERs.

The Chinese government has also identified a number of CDM priority areas, meaning that the government prioritizes projects in these areas to encourage the development of so-called “relevant” CDM projects anticipated to lead the transition to a low-carbon economy. The prioritized areas are: first, energy efficiency improvement; second, development and use of new and renewable energy; and third, methane recovery and use. This is well in line with China’s domestic climate policy priorities of raising energy efficiency and promoting renewable energy as central measures.

Moreover, China has implemented a levy on CERs. Quite remarkably, the Chinese government uses differentiated rates for different categories of CDM projects. Projects classified into one of the priority areas or as a forestation project pay a 2% levy. In contrast, Nitrous oxide (N₂O) projects are subject to a 30% levy and hydrofluorocarbon (HFC) and perfluorocarbon projects (PFC) projects must pay a 65% levy. The government justifies the different levy rates by arguing that CDM projects must support the national sustainable development strategy. However, there is currently no strict quantitative measure of sustainable development in China, so the projects are evaluated more on the basis of their impact on sustainable development according to whether they are classified into the priority areas. Based on this, the Chinese government has imposed its differentiated levies on CER sales for different types of CDM projects.

Chinese research institutions linked to the Ministry of Environmental Protection and the National Development and Reform Commission have proposed that Chinese authorities should evaluate from the outset whether a CDM project fulfils its dual objectives by using an indicator system. The MATA-CDM-China indicator system has been proposed for assessing how individual CDM projects will affect sustainable development in China, including technology transfer. This indicator system assesses individual CDM projects by comparing the actual project with a baseline. All in all, nine indicators, representing the economic, environmental, and social pillars of sustainable development, are compared with the baseline and are awarded scores ranging from -1 to 1. A positive value indicates that the CDM project has a positive impact on sustainable development, while a negative value indicates that the project underperforms the baseline. In comparison with IPCC's broad definition and with the technology transfer outcomes of CDM

projects in other host countries (Dechezlepretre et al. 2008), the baseline for the technology transfer sets the bar for technology transfer quite high. Using the MATA-CDM-China indicator system, then it is mostly projects in the priority areas and projects with high levels of technology transfer that receive “high scores” and, consequently, are deemed to have a high impact on sustainable development. This way, the MATA-CDM-China system can be used to try to steer the CDM market in a desired direction. The Chinese government, if it introduces a sustainable development indicator system, will in effect be able to prioritize CDM projects involving technology transfer, in the form of transfer of core technology and advanced know-how.

A particular feature of the Chinese carbon market is that the national government, through the DNA, will provide price guidance by setting a floor price for CER credits to a certain project if considered necessary. This price guidance is thought to be necessary *inter alia* because project owners are considered at a disadvantage *vis-à-vis* the project developers and buyers. Finally, the Chinese government has introduced a rule called “Eligibility Requirement on Project Owners” or the “49/51% rule”. This rule means that only Chinese-funded or Chinese-holding enterprises of which at least 51% of the equity is owned by Chinese entities or citizens within the territory of China are eligible to conduct CDM projects with foreign partners. The 49/51% rule is one of the criteria guiding the evaluation and approval of CDM projects by the Chinese DNA.

In sum, the Chinese government uses a number of regulatory instruments to attempt to govern the CDM. Not only does the government seek to ensure that CDM projects are in line with essential elements of its national climate change policy, as is commonplace in contemporary policy-making, but it also uses more interventionist approaches, such as providing price guidance

and creating an indicator system for project registration. This quite substantial government involvement raises questions about the consequences of such an approach. While a causal connection between the governmental involvement and how the CDM market functions is difficult to determine through a qualitative research design, we comment below on the current status of the market in China, which has evolved simultaneously as the government was developing the activities described above. Thus, the market is likely to have been at least influenced by the significant government involvement in the country.

Consequences of Chinese Governmental CDM Involvement

Today, the Chinese CDM market is widely considered to be functioning well. At the same time, it is a market consisting of certain kinds of projects. The empirical data presented here suggest that certain projects have been favoured on the Chinese CDM market, largely due to the active involvement of the national government. This argument is supported by recent figures for Chinese CDM projects in the prioritized and non-prioritized categories. CDM projects related to the destruction of industrial gasses, such as HFCs and N₂O, have been controversial because of low investment cost and the large amount of CER credits generated. However, the HFC and N₂O projects' share of total annual CERs in the pipeline decreased from 53% to 26% from December 2006 to 2008. Starting by picking the "low-hanging fruit" can explain part of this change, but Chinese CDM policies effectively discouraging HFC and N₂O projects is another important reason. These projects are not prioritized and their levy rates are 65% and 30%, respectively. Most of the CER credits from China still come from HFC projects – as of January 2009, 84% of total CER credits – however, by 2012, only 24% of the total number of CER credits from China

are expected to emanate from HFC projects. Recently, international debate on whether or not HFCs should qualify for registration has arisen.

At the same time, the number of priority projects has increased considerably. As of 1 January 2009, renewable energy projects accounted for 39% of the CER credits in the pipeline and 18% of the CER credits registered to the CDM Executive Board, which marks a significant increase since January 2006. The rapid increase of wind power projects in China can largely explain the substantial increase of renewable energy project CER credits. The number of energy efficiency CDM projects has also grown substantially: since January 2006, the number of such projects in the pipeline has increased more than tenfold and the volume of annual CER credits has increased more than fifteen times. Thus, government involvement has not only attempted to stimulate the market as such, but actually affected the type of projects favoured.

The attempts of the government to govern the CDM by intervening in the market have by no means discouraged investments, but rather encouraged them. Political direction and government action seem to have created a perception among business representatives of a well-functioning market characterized by stability. CER buyers have cited the predictability of the Chinese regulatory system as a key factor in making their CDM investment decisions (World Bank, 2008:32). Similarly, interviewed representatives of European companies, active on the Chinese CDM market, claimed that the market environment in China was better designed than in other emerging economies (EU-China CDM Facilitation Project 2009). Respondents indicated that market conditions had been facilitated by key developments in methodology seen as necessary for the further development of the CDM market. In a similar vein, investors and other

stakeholders have sought signals in international climate change negotiations as to the future of the CDM after the first commitment period of the Kyoto Protocol expires in 2012 and, more recently, as to the fate of the CDM if there is no second commitment period at all.

Analysis and Discussion

The present study reports several empirical observations demonstrating significant Chinese government involvement in shaping domestic CDM market conditions. The regulatory activities include developing policy guidelines, setting up a CDM fund, identifying a number of CDM priority areas, use of differentiated tax rates, use of a sustainable development indicator system (e.g. MATA-CDM-China) as a basis for registration, use of price guidance, and implementing the so-called 49/51% rule. Although the UNFCCC has left room for national interpretation of the CDM, the range of Chinese governmental activities is greater than one would expect and makes CDM governance in China one of a kind. They are signs of a governmental desire not to leave the market alone, but rather to carefully shape its structure and function as well as the kinds of products that should be on the market. These observations are well in line with previous research demonstrating pervasive norms and ideas in Chinese society as to the benefits of a national government with retained authority (Hoffmann and Enright 2008).

Furthermore, the specific policies, measures, and related activities undertaken by the Chinese government reveal domestic interpretations of what constitutes appropriate implementation of the CDM. For example, China has used economic instruments in a way that indicates a desire for significant market interference, through a remarkably sharp differentiation of levies and price guidance. The sustainable development indicator system as a basis for registration indicates that

the government has chosen to interpret and handle the concept in quantitative terms. Moreover, the government explicitly seeks to direct projects towards three identified priority areas – energy efficiency, renewable energy, and methane recovery and use – to support the handling of “relevant” issues. What is seen as relevant is clearly norm-based and, by linking the priority areas to CDM projects, the government exerts a substantial influence on the market. Other norms likely to have coloured CDM development are that it should be done with social issues in mind and in line with social objectives and national priorities such as energy security. In this sense, the CDM supports other ideals of Chinese society and is designed to support notions of what benefits national development. The government’s extensive involvement also mirrors the Chinese desire for predictability and clarity.

These examples suggest that the CDM-related activity of the Chinese government benefits from an analysis going beyond a mere description of the administrative units involved (Shin 2010) and could be better understood through an institutional lens. By focusing on the cultural prescriptions, norms, and ideologies of the applicable social context, we were able to gain a more thorough understanding of the governance activities of specific domestic actors. Institutional factors are particularly evident in national settings where cultural and social values become manifest. These can be traced in the governmental behaviour and should be analysed as norms and values shared by the range of individuals at various governmental departments who have developed their instruments based on their ideas about what is appropriate behaviour.

However, the intentional focus on the domestic level in this paper does not suggest that the institutions neatly coincide with national borders. The CDM is a part of the international climate

policy framework and has been heavily discussed in recent years. One example is the truly international debate about the possible reform of the mechanism, a debate permeated with ideas about how the CDM should be governed, designed, and implemented. In the international arena, other widespread norms confirm the dual or triple objectives of CDM, i.e. not only generating carbon credits but also contributing to sustainable development and technology transfer. We recognize the claim made by previous studies that the CDM should be seen as a part of global governance.

However, we stress a more uncommon argument, namely, that the national government is more important in CDM governance than previously acknowledged. There is an abundance of empirical examples of a state creating rules-of-the-game for the market, but we argue that the CDM in China is an example of remarkably extensive governmental control. We have presented evidence of how international guidelines are open to interpretation domestically. China has not only taken advantage of this opportunity for governmental engagement but states, in its 2008 White Paper, that “the host country should play a more important role in developing CDM projects”.

Moreover, we have demonstrated that governmental involvement not only encourages the market but actually influences it, for example, in promoting certain project activities. Government intervention in markets is not necessarily an impediment, as is generally suggested by liberal political ideologies. On the contrary, the Chinese market is in several respects regarded as well-functioning and the active role of the government has coincided with, or even led to, a number of positive trends, such as attracting foreign investment and investors and contributing to the

prominent position of China on the global CDM market. The consequences of an active state, which favours certain types of projects, also indicate a flexibility in which the state can choose to direct certain issues for a certain period of time and adjust them to changing priorities at a higher level over the years.

Conclusions

This paper presents evidence regarding how a policy instrument established via international climate change collaboration under the UN umbrella has spurred regulatory activity at the national level. While acknowledging the global and local component of the CDM and climate governance, we have in this study focused on how and why the Chinese national government has attempted to govern the CDM market and what consequences these regulatory interventions might have had. An important point of departure was our proposition that national governments matter in CDM implementation. In other words, the CDM should not only be analysed as global governance, but the national level deserves more attention since this is where extensive and important implementation efforts takes place. To sum up the analysis above, our findings show that the regulatory activity of the Chinese government has affected the CDM through various means and that the institutional factors underpinning its activities can explain why. As institutional theory predicts, actors involved in the governance of CDM, such as the Chinese government, was influenced by society's rules, norms and ideologies. A lively Chinese CDM market has emerged in the footsteps of an active national government, but regulatory activity has not only been confined to shaping the market, i.e. establishing the rules-of-the-game, but has also sought to affect the kinds of projects that constitute the market through employing differentiated

levies. Planning ahead is central to Chinese policy, and directing CDM projects to serve national priorities corresponds well with national norms on how policies should work.

This study contributes to the existing literature on CDM governance in at least three ways. First, we have made an empirical contribution to the CDM literature by documenting how an influential state has used many of its regulatory tools to influence a market and, importantly, by demonstrating that regulatory activity does not necessarily conflict with a well-functioning market. Second, the use of institutional theory complements the current CDM governance literature, which has overemphasized the role of the actors and neglected or downplayed the role of norms and values. Third, despite the CDM being part of a global carbon market characterized by international investment flows, the paper has demonstrated the existence of a critical national component in the CDM. This factor has been largely ignored by previous research, so we need to study not only national contexts in implementing international policy, but also pay particular attention to how various national governments play important and active roles in shaping the CDM instrument to better fit domestic circumstances.

What are the implications of focusing on the national government through an institutional lens when studying CDM governance? According to the institutional argument, CDM governance is influenced by nation-specific social and cultural factors. From this argument it follows that governance patterns will not be the same in every country. What is seen as nationally appropriate will differ, in terms of both how the CDM market should function and the national priorities it should support. What is needed to make a domestic CDM market work most likely differs significantly between a country like China and less populous, politically stable developing

countries. If an active and interventionist government, like the Chinese one, can help create a lively CDM market, then successful markets are less likely to evolve in countries with less strict governmental control and intervention. Hence, other means should be considered in attempting to promote greater geographical variation in the location of CDM projects. We call for studies of the CDM that not only take the policy shaping dynamics of the national level more fully into consideration but also provide a holistic analytical framework that acknowledges the interplay between sub-national and national influences on the CDM. A cross-national comparative study would also be valuable in future research to cast further light on how CDM governance is influenced by institutional factors. In addition, in-depth qualitative studies of norm-based behaviour among CER credit buyers would improve our understanding of how the mechanism is crafted by actors embedded in normative settings.

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