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## Who drives China's renewable energy policies? Understanding the role of industrial corporations

Wei Shen

Institute of Development Studies, Library Road, Brighton BN1 9RE, UK

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#### ABSTRACT

This paper investigates the rise of a policy community in China's renewable energy sectors. After a decade of spectacular expansion of wind and solar energy industries, a PC that comprises both government and industrial actors is taking shape in China. The main finding of this research is that influential corporations, such as leading wind turbine and solar panel manufacturers or state-owned electricity utility companies, have played an important role in the renewable energy policy process by framing the strategic preferences and policy priority, and by negotiating and coordinating with state actors at both central and local level. Therefore, in China's climate governance domain, instead of a traditional perception of a state-led governance mode in which state officers are often believed to be the only crucial actors to steer climate-related policies, this study reveals that the government's autonomy in the policy process is increasingly constrained by the rising industrial interest groups who possess considerable resources and institutional power in China's renewable energy policy subsystem.

#### 1. Introduction

China's wind and solar energy sector has witnessed spectacular growth in the last decade. By 2015, the total installed wind and solar energy generation capacity in China reached 129 GW and 43 GW respectively, with 33 GW wind capacity and 15 GW solar capacity installed in 2015 alone (National Energy Administration (NEA), 2016a, 2016b). Meanwhile, manufacturing capacity for renewable energy equipment also witnessed tremendous growth (Lewis, 2013). Chinese companies have become world leading manufacturers of solar panels and wind turbines, and have acquired a significant share of global markets. This rapid growth has received considerable academic attention investigating how such successful development is achieved (Harrison and Kostka, 2014; Hochstetler and Kostka, 2015; Lewis, 2013; Schuman and Lin, 2012; Zeng et al., 2013; Zhang and He, 2013).

This paper contributes to these debates by asking who has been driving renewable energy policies in China. On the surface the answer can be obvious. Major renewable energy policies, such as concessional bidding programs, a comprehensive feed-in tariff system, and rewards or subsidy schemes for technology innovations, are often believed to be designed and implemented in a top-down fashion by the central government. It is a typical case of environmental authoritarianism (Beeson, 2010; Gilley, 2012) or 'developmental state' (Chen and Lees, 2016), where state officers are not only controlling and dominating the policy process with little confrontation from other social actors, but are also highly entrepreneurial and have distinctive state-corporatism characteristics in promoting industrial and economic activities (Dickson, 2008).

But a deeper look at China's policy development in the wind and solar sectors presents a different picture. After a decade of massive expansion of renewable energy investment and industrial capacities, government regulators seem to be no longer the only actors that matter. Instead, corporations, such as state-owned electricity utility companies, as major investors in wind and solar

E-mail address: w.shen@ids.ac.uk.

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W Shen

parks, and leading wind turbine or solar module manufacturers, are gaining prominence in the policy process. Back in 2005 when the Renewable Energy Law was introduced, policy making was indeed carried out in a top-down fashion as there was not yet a well-established renewable energy industry in China (Schmitz, 2016). But the rise of corporate powers due to the massive market expansion since then has significantly changed this state-led policy process, leading to a new form of government-industry relationship.

This paper therefore focuses on the corporations and asks whether and in what ways these actors can influence the policy formation or implementation in China's renewable energy sectors. It argues that China's renewable energy sectors consist of various interests among different bureaucratic and industrial segments, who form a closely knitted policy network where constant interest contestations and alliance-building efforts can be observed during their intensive day-to-day interactions. These inter- and intra-state-industrial power dynamics are crucial to understanding who drives China's renewable energy policies besides government actors.

In order to tackle these complex dynamics, this paper adopts a conceptual framework drawn from *policy community* (PC) theories. It aims to reveal and explain how coordinated efforts were exerted by industrial actors to steer or deter policy development and policy change in China's wind and solar energy sectors. This research is a qualitative analysis based on intensive field investigations, stakeholder interviews and document analysis. Eighteen formal in-depth interviews with government officers and industrial practitioners were undertaken during several field trips between 2013 and 2015 to China. In addition, over 100 formal policy documents plus a large number of media reports and grey literature covering the period from 2005 to 2016 were analysed as complementary data to the interviews.

#### 2. Conceptualising the corporations' influence in China's policy process

In this section, a conceptual framework is established for analysing the state-industry relationship and corporation policy influence in China's renewable energy policy subsystem. Most previous studies of China's renewable energy development have focused on the 'powerful central state' as the major contributor to China's impressive achievement in building up its world-leading wind and solar technology and electricity generation facilities (Chen and Lees, 2016; Hochstetler and Kostka, 2015; Lewis, 2013). Their main arguments have been that it is the political elite of the party-state who selected the renewable energy industry as a strategically important sector for national economic and social welfare and it is state officers who designed the supportive policies that ultimately encouraged technological catch-up and market expansion. Therefore, the success story of China's renewable energy development is often regarded as a good example of the advantages of 'developmental states' (Chen and Lees, 2016) that often put emphasis on the production side of the economy and adopt a state-led coordinated approach to promoting economic development and technology transformation.

#### 2.1. Beyond the 'developmental state' explanation

The developmental state concept, though accurately describing the cause of the rapid development of China's renewable energy sector in its initial stage, says little about to what extent and how such a development approach would promote the influence of industrial actors in the policy process and affect the government-industry relationship that evolved during the massive market expansion. This question is particularly acute when many China scholars noticed the growing policy influence of industrial actors during the reform era (Deng and Kennedy, 2010; Dickson, 2003; Kennedy, 2005). In addition, it is also unclear whether and in what way the rise of corporate influence would ultimately affect the state autonomy in setting and implementing the policy agenda.

In seeking to answer these questions, a conceptual framework is needed to accommodate simultaneously rising corporate power and a still highly coercive party-state in China. Moreover, this conceptual framework needs to address various dynamic linkages between state and corporate actors, given that the interactions can be both formal and informal, cooperative and conflictual, and at central and local levels. The concept of policy community discussed below seems to be capable for this challenging task.

#### 2.2. The policy community concept and its key features

In the broadest sense, a policy community (PC) refers to the population of both public and private organisations with a stake in an area of public policy, who are pursuing common policy goals or instrumental interests, and exerting coordinated influence within the policy subsystem through intensive interactions both within and outside formal political institutions (Marsh and Rhodes, 1992; Rhodes, 1997). The concept of PC is a major component of policy network analysis often used by policy researchers (Atkinson and Coleman, 1992; Miller and Demir, 2007; Thatcher, 1998). Therefore, a PC can be either a market-based horizontal network or a hierarchical decision-making process, or, as illustrated in this case study, a combination of the two via various forms of linkages and partnerships among PC members.

The PC concept was first developed to describe government-industrial relations and interest-group politics in industrialised countries, when scholars wished to broaden the analytical range beyond the formal political institutions within the state to the 'informal' interactions or activities that may ultimately shape policy formulation, enactment and adjustment (Rhodes, 1997). However, there are an increasing number of applications of PC frameworks to case studies outside Western democratic countries and even to the authoritarian regimes such as former Yugoslavia and China in its pre-reform era (Baskin, 1989; Campbell, 1989; Halpern, 1989). These case studies indicate that the concept can be applied to various political economies with highly asymmetric power relations between public and private spheres.

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