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Steering Political Conflicts for Climate Stability

The Case of China

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How can countries overcome challenges to achieve radical sociotechnical transformation in response to the climate crisis? Many researchers have considered possible pathways to rapid decarbonization and expressed different views: Some underscore the necessity to generate path-dependent policy processes to break carbon lock-in through entrenched and increasing support (Bernstein and Hoffmann 2019; Levin et al. 2012; Rosenbloom et al. 2019), but others indicate the need for political conflicts to challenge the power of incumbents who want to delay or prevent transition (Colgan et al. 2021; Paterson 2021a; Stokes 2020). However, these insights on climate politics and the resulting debate on policy stability versus (re)politicization have been largely drawn from cases with similar contexts, namely liberal democracies in the Global North. This bias leaves research on developing countries and emerging economies underdeveloped despite the critical role of these countries in global climate governance.

Our study recognizes the diversity of political economies across countries and the importance of contextual factors in shaping conditions for transition, and suggests that policy stability and political conflicts are not always incompatible, especially in non-Western contexts without liberal democracy (Roberts et al. 2018). We argue that policymakers can strategically make institutional arrangements to ensure durable policies that provide continuous support for low-carbon transition – what Chapter 1 refers to as "stability as policy lock-in" as well as "stability as the status quo." In other words, when windows of opportunities remain open, powerful actors can design and promote policies with strong feedback effects to weaken anti-transition interests and strengthen pro-transition ones. Such situations are likely to occur when pro-climate state actors with a strong influence on the market can shift the interest of powerful incumbent actors toward decarbonization.

We use the case of China's climate response to illustrate our argument. China is a crucial case due to its double role as the world's largest greenhouse gas emitter and largest energy consumer and producer. At the same time, the Chinese case can contribute to the development of theories about climate politics by shedding light on the possibility of managing political conflict to support policy durability in a political economy context that significantly diverges from Western-centric narratives. In this way, we demonstrate how leaders avoid politicization given the potential risk for political conflict and instead look for ways to secure stability. We illustrate this through an empirical analysis that focuses on the reforms of Chinese state-owned power producers and shows how the Chinese government has strategically regrouped fossil fuel and renewable producers to manage potential political conflict, and accordingly, ensure the durability of the country's clean energy transition.

In the rest of our chapter, we present a brief overview of China's climate governance, including recent targets and policies, along with different interpretations of China's governance model. We then turn to a discussion of the role of the state in managing potential conflicts in the processes of low-carbon transition, viewed through reforms targeting China's power sector. We argue that the Chinese state has attempted to shift the interests of big state-owned power producers by regrouping them with rising renewable producers. The China case thus contrasts with South Africa (see Hochstetler, Chapter 9, this volume) where the state-owned power sector has attempted to crowd out renewable providers. In this way, our chapter is a key contribution to the debate on the role of state actors in pursuing policy stability versus politicization. We demonstrate how, in the China case, politization is in fact state-led, in contrast to what we see in many other countries. Furthermore, while most studies of climate governance in China focus on the role of the central government, China's climate response is not monolithic, and here we demonstrate the role of state-owned enterprises in the power sector. Based on this empirical case, we consider possible conditions under which the Chinese state can manage potential conflicts in transition. We conclude by discussing pathways and remaining challenges to reconciling policy stability and political conflict in the low-carbon transition.

10.1 Governing Climate Change in China: Challenges and Opportunities

As the world's most populous country and largest emerging economy, China's climate policy has large implications for the global effort to combat climate change. Since the 1990s, rapid development has not only transformed the Chinese economy and society but also made the country's energy system increasingly carbon-intensive.

We are not arguing that this can only happen in China, but in China's authoritarian context, this way of managing conflicts can happen more easily.

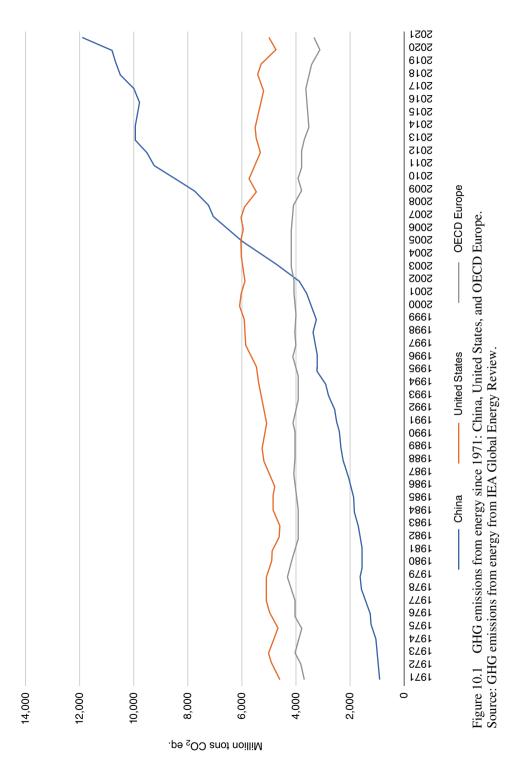
When countries began to negotiate the United Nations Framework Convention on Climate Change (UNFCCC) in 1990, China's carbon emissions represented only 11 percent of global emissions and less than half of the emissions of the United States (Ritchie et al. 2020). Accordingly, international pressure on China for emissions reductions remained limited and China was defined as a "non-Annex I" country in the Convention (see Allan, Chapter 14, this volume). However, since then, China's emissions have grown dramatically, especially between 2000 and 2012, with an average annual increase rate of 9.5 percent (Sandalow et al. 2022). In 2006, the country surpassed the United States to become the world's largest emitter, and today, China's carbon emissions account for more than 30 percent of the global total (see Figure 10.1). Although per capita emissions in China remain much lower than those in developed countries, improvements in the standards of living in the country have led Chinese people to continuously increase their carbon footprint, which is now above the global average (see Figure 10.2).

Hence, if China cannot take strong action to quickly decarbonize its economy, the chance of reaching the 2015 Paris Agreement's goal is small. To date, China's response to climate change has received a mixed reaction as it has been seen by some as a villain responsible for worsening climate change and by others as a champion of climate action, due to its rapid development of low-carbon technology. In 2020, China announced the ambitious goal of peaking its emissions before 2030 and achieving carbon neutrality by 2060. How has China responded to climate change, and to what extent is the country on track for a rapid and deep transition toward net zero? In what follows, we briefly review China's policies and consider the key features of China's climate governance model.

10.1.1 China's Support for Low-Carbon Technologies and Dependence on Coal

As China has paid increasing attention to climate change, a major concern for its central government is to balance economic development and environmental protection (Qi and Wu 2013). In other words, climate action should not undermine the country's continuous growth. In fact, for a very long time the most important indicator to measure performance of governments at different levels in China has been targets on economic growth, and such challenges to maintaining growth may disincentivize and delay Chinese policymakers in taking strong action to combat climate change. At the same time, being considered a developing country by the UNFCCC, China has put strong emphasis on "common but differentiated responsibility" and asked for the support of developed countries for decarbonization.

Since the entry into force of the Kyoto Protocol in the early 2000s, China quickly became the largest beneficiary of the Clean Development Mechanism (CDM) by



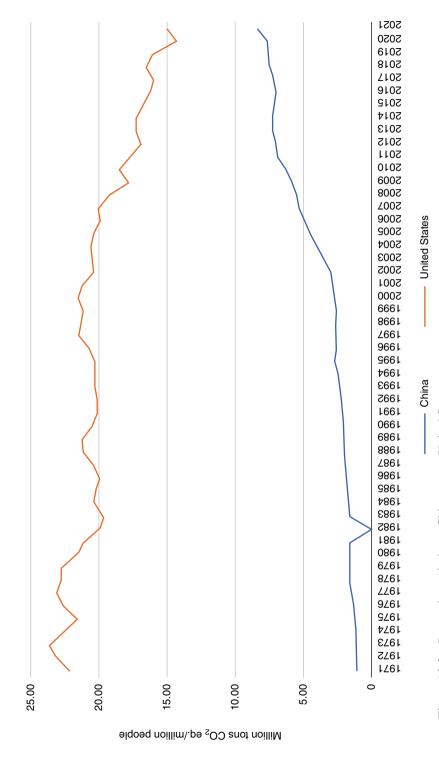


Figure 10.2 Per capita emissions: China versus United States. Source: GHG emissions from energy from IEA, population data from World Bank.

hosting thousands of renewable energy projects funded by economically developed countries (Schroeder 2009). China's CDM experiences not only facilitated transfer of and foreign investment in clean technology but also made Beijing realize that clean energy development can be a "win-win" solution for economic development and climate mitigation (Qi and Wu 2013). Guided by this strategy, both the central and local governments created a range of policies since the mid 2000s to support homegrown industries of clean technologies, especially wind and solar power (Lewis 2013; Nahm 2017). With such government support, Chinese firms were able to establish unique capabilities for innovation in commercialization and scale up to mass production, so over the last decade the country began to lead the global production of clean energies (Helveston and Nahm 2019). Although coal still dominates China's energy mix, China is by far the global leader in terms of deployment of renewables, with its installed wind capacity accounting for 39 percent of the global share and solar capacity for 36 percent (Kyriakopoulou et al. 2022). In this respect, China seems to be making consistent progress in transitioning toward a low-carbon energy system through technological development and market scaling-up.

Moreover, as China's emissions continued to increase, the government increasingly began to set goals and targets on climate change. In 2011, response to climate change was for the first time mentioned as a chapter in China's Five-Year Plan – the most important policy document detailing the government's planned work. Since then, the government has continued to set specific targets on carbon intensity, energy intensity, and renewable energies in the subsequent 13th (2016– 2020) and 14th (2021–2025) Five-Year Plans. The 14th Five-Year Plan also indicates the government's strong intention to align its development with the goals of emission peak before 2030 and carbon neutrality before 2060 by controlling both carbon intensity and total emissions. This trend of enhanced climate action in China can be partly attributed to the government's commitment to sustainable development due to its quest for performance legitimacy (Teng and Wang 2021). In the early 2010s, worsening environmental conditions caused public dissatisfaction across China and undermined the Chinese Communist Party's legitimacy (Fedorenko and Sun 2016; Wong and Karplus 2017). In response, China's top leaders introduced various environmental targets to measure government performance and proactively championed green development, even introducing the concept of "ecological civilization" as an overarching governance principle (Hansen et al. 2018).

With strong political motives and a rapidly expanding market on low-carbon technologies, the Chinese government was able to meet or even exceed almost all targets on climate change, especially those on renewable energy installed capacity (Lewis and Edwards 2021). Internationally, China has also felt increasing pressure

to take more action to reduce its emissions after the Copenhagen conference in 2009, and since then has played a more prominent role in global climate governance and provided strong support for the Paris Agreement (Hilton and Kerr 2017). Taking such records into account and the recent momentum generated by China's carbon neutrality target, one can expect the country to become an important driver of global climate action.

However, the abovementioned progress is not without caveats. Coal remains dominant in China's energy mix and still accounts for more than half of China's primary energy consumption. Today, China's is still the world's largest consumer and producer of coal, so coal phaseout in China would significantly accelerate global decarbonization efforts. In 2020, Beijing announced the ambitious goals to peak carbon emissions by 2030 and achieve carbon neutrality by 2060. But in 2022 alone, China added 106 GW of new coal power capacity, the equivalent of two new plants per week (Myllyvirta et al. 2023). Partly due to insufficient effort to reduce fossil fuel use, China's total emissions continued to grow after 2016, and economic recovery from the first wave of the COVID-19 pandemic in 2021 even led to the country's largest emissions increase over the last ten years (Sandalow et al. 2022). In international fora, the Chinese government has also expressed its reluctance to rapidly phase out coal use in the country as demonstrated by the quest of China and India to use the wording of "phase down" instead of "phase out", when referring to unabated coal in the Glasgow Climate Pact (Depledge 2021). Therefore, many observers have criticized China's existing climate action as "highly insufficient" and demanded the Chinese government raise its ambition and specify how its planned emissions pathway can be made consistent with the Paris goals (Climate Action Tracker 2021). From this perspective, one can expect that the Chinese government's reluctance to strengthen or accelerate its climate mitigation efforts is due to resistance of some powerful incumbent actors who want to protect their interest in fossil fuels and coal in particular.

10.1.2 An Approach of State-Led Environmentalism

How can we understand China's policy response to climate change? This question requires an unpacking of the policymaking processes in the country and the interests of key actors. With an authoritarian political system, China's environmental and climate governance has been typically characterized by its state-driven processes. As pointed out by some experts, the relevant policymaking process is led by "consensus building" at the center in contrast to public and partisan debate in Western democracies, meaning the central government sets national targets and assigns responsibility of policy implementation to all levels of local governments and related companies (Qi and Wu 2013). In other words, this is a very top-down

approach, which allows policymakers in Beijing to decide targets for the country with little involvement of non-state actors and the public. For this reason, some researchers label China's governance model as "authoritarian" environmentalism or "coercive" environmentalism (Gilley 2012; Li and Shapiro 2020). Indeed, research has shown that the state has always played a critical role in governing environmental change in China regardless of the specific instruments it may use (Guttman et al. 2021; Rooij et al. 2016; Sun 2022).

At the same time, simply interpreting China's climate governance as authoritarian environmentalism can be misleading. China's authoritarian system in the reform era has been described for a long time as fragmented due to the lack of coordination across government agencies and between central and local governments (Lieberthal and Lampton 1992; Mertha 2009). As a result, past research has shown much variation in local implementation of China's environmental and climate targets, which sometimes undermines the goals set by the national government (Alkon and Wong 2020; Eaton and Kostka 2014). As local governments may find leeway to interpret national targets and identify their own implementation strategy, businesses can accordingly lobby their local regulators to delay transition even if that was part of national policy. This might be especially the case for state-owned companies, which have a higher administrative status in the Chinese bureaucracy than provincial governments. Due to such fragmentation, many researchers remain pessimistic about China's climate ambition.

That said, there has been a recent, continuous trend of consolidating power to the center in China for environmental governance and green development, particularly since Xi Jinping took over in 2012 (Kostka and Zhang 2018). This trend has been likely driven in part by Xi's own interest in the environment and his stated intention to use ecological civilization to challenge the Western development model (Weins et al. 2023). More specifically, the central government has made a series of institutional arrangements, including through national campaigns and inspection systems, to ensure the achievement of targets by relevant subnational and non-state actors (Li and Shapiro 2020; Shen and Jiang 2021). In these ongoing processes, we have observed the increasing use of regulatory power by the central government to enforce change within local governments and businesses. As the Chinese state gained more influence over the market to push for green development, an optimistic view with respect to the politics of decarbonization is that, to continue and even accelerate transition, the government may have the capacity to weaken the power of incumbent actors who are likely to resist necessary changes.

In the next section, we use the case of power sector reform to show how, in China's unique political economy context, the state has tried to manage potential conflicts in the low-carbon energy transition.

10.2 Power Sector Reform and State-Owned Enterprise Restructuring

Restructuring state-owned power companies always been the central element of China's decade-long power sector reforms. Before 2002, China had a highly centralized power system, with only one state-owned enterprise (SOE) - State Power Corporation of China (or SPCC) – managing all power generation, transmission, and distribution assets across the country (Xu and Chen 2006). However, the Chinese government decided to terminate SPCC's monopolistic status by breaking it up into eleven companies in December 2002, during which power generation activities were separated from transmission and distribution services. In addition, the then existing power generation assets were redistributed among five newly created state-owned companies, which were encouraged to compete equally for developing new power generation infrastructures in China (Yeh and Lewis 2004). Meanwhile, the transmission and distribution system remained territorially monopolistic, with two utility companies responsible for northern and southern China respectively. The 2002 reform is often viewed as the beginning of a new "controlled but competitive" mode of power sector governance in China (Andrews-Speed and Zhang 2019; Baker et al. 2021).

The main purpose of the reforms in 2002 was to enhance the efficiency of SOEs, which was believed to be the main cause of a chronic power supply shortage since the start of China's marketization reforms in the 1980s. The effect was nearly immediate – power supply has been significantly enhanced since these reforms as illustrated in Figure 10.3, largely because of competition among the newly created "Big Five" power generation companies, known as Huaneng, Datang, Huadian, Guodian, and Zhongdiantou. The total installed capacity increased nearly fourfold between 2002 and 2016, from 356 GW to nearly 1650 GW. The "Big Five," together with several relatively smaller state-owned power generation companies (e.g. Guotou, Guohua, Huarun, Three Gorges, Zhongguanghe, and Zhongjieneng) have dominated the landscape of the power generation sector since then.² In addition, while China once welcomed foreign and private investments in the power sector (primarily in the late 1990s), most of these independent power producers were gradually squeezed out of the market due to competition from the leading SOEs (Baker et al. 2021). As a result, by the time China started to introduce the development of non-hydro renewables at scale beginning in the mid 2000s, its power sector was dominated by state-owned incumbents.

Renewable energy resources including wind and solar energy were never viewed as rivals to conventional energy resources by the Chinese government or SOEs in the earlier years of their development. At that time, conventional wisdom was that

² The Big Five plus China Three Gorges are also called the "Big Six" because the latter's capacity is closer to the Big Five.

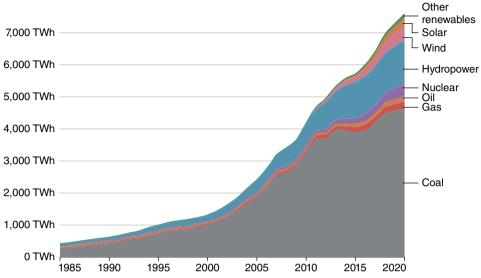


Figure 10.3 Power supply by source in China, 1985–2020.

Source: World Bank Open Data.

there was abundant space for both sectors to expand given a fast-growing economy and rising electricity demand (Shen and Xie 2018). In fact, wind and solar energy resources were viewed as tools to enhance China's energy security by increasing the country's self-reliance in electricity production. Since 2007, the introduction of feed-in tariffs and government procurement programs provided clear policy signals and notable incentives for some SOEs to venture into renewable energy investments.

Although not all leading SOEs were convinced of the promising prospect of renewable energy projects at that time, some believed that renewables would present a potential strategic opportunity. For example, Guodian developed impressive onshore wind energy capacities, mainly via its subsidiary company Longyuan Power, whereas Zhongdiantou became a leading developer of solar photovoltaic (PV) capacities. Even Shenhua Group, China's leading coal SOE, has developed several solar thermal projects around the country (Grikas 2016). While other SOEs lagged in renewable energy development during this initial period, many have caught up quickly in recent years.

10.2.1 Further Restructuring of the "Big Five" in the Era of Energy Transition

The "controlled and competitive model" largely resolved China's chronic power supply shortages, which was critical for China's fast-industrializing and fast-urbanizing economy. However, the fierce competition among leading

SOEs in the power generation sector ultimately led to a significant overcapacity problem. As economic growth slowed from more than 10 percent to less than 5 percent between the early 2010s and 2020, total energy consumption in China slowed. To avoid unnecessary competition among the SOEs and prevent massive "stranded" power generation capacity, the Chinese central government initiated another round of restructuring among SOEs to reallocate and coordinate the assets and resources. This restructuring started as early as 2011 when dozens of state-owned engineering, construction, and consultancy companies were merged into two leading infrastructure engineering, procurement, and construction (EPC) companies, known as PowerChina and China Energy Engineering Corporation (CEEC). In 2015, one of the Big Five, Zhongdiantou, was merged with the State Nuclear Power Technology Corporation to create the State Power Investment Corporation (SPIC), which makes it the only company in the Big Five with a comprehensive portfolio that includes coal and nuclear as well as wind, solar, and other clean energy assets. The restructuring reached its peak in 2017 when another Big Five company, the Guodian Group, was merged with Shenhua Group, the then largest coal-producing SOE in China. The merger deal created a mammoth organization – China Energy Investment Group (CHN Energy) – even compared to other SOEs, with total assets of more than USD 600 billion and 180 GW total installed capacity.

This restructuring significantly affected these SOEs' strategy for developing renewable energy capacities. The newly merged SPIC accelerated its investment in solar PV activities, and by 2019, it became the largest solar PV developer in the world in terms of accumulated capacity assets. It was also the first among the Big Five to achieve the 50 percent threshold of total installed generation capacity from renewable energy resources. Between 2015 and 2018, it was awarded twenty-one large-scale solar parks with a total of 2,175 MW under China's Solar PV Front Runner Program, a grand government procurement scheme aimed at expanding advanced and efficient technological solutions often in difficult contexts such as deserts or plateaus.

In China, the price of coal is largely determined by the markets, whereas electricity tariffs have been highly centrally regulated. As a result, turbulence in coal prices has significantly impacted the operations and economic viability of coal-fired power producers, which eventually led to mergers to reduce the structural uncertainties. CHN Energy was thus established as a result of the vertical merger between China's largest coal supplier, Shenhua, and the largest power producer, Guodian, which intended to mitigate the long-lasting conflicts between upstream and downstream activities in the thermal power sector. However, another notable impact of this merger is that it has created simultaneously the largest coal-fired and wind power producer in China, as the Longyuan Group under CHN Energy

possesses more than 23.67 GW of wind energy capacity by 2021. The prospect of both coal-fired and wind power generation was reinforced as two pillars of the corporate strategy for CHN Energy. At the provincial level, a similar merger took place between two local SOEs in Shandong, Yankuang Group and Shandong Energy Group, which created a vertically integrated corporation in 2020 controlling both coal supply and power generation.

In 2023, another major SOE, China Three Gorges, reached a deal to hand over one of its major subsidiaries, China International Water & Electric Corporation (CWE), to the Zhongjiao Group. CWE has long been the leading dam builder around the globe, whereas Zhongjiao Group is the leading SOE for infrastructure and EPC construction, particularly in overseas markets. Such restructuring indicates that China Three Gorges will focus more on domestic markets in the future, particularly around the development and operation of hydro and solar energy capacities.

These cases illustrate the broader trend of major Chinese SOEs in the power generation sector being constantly restructured for different purposes over the past decade. Although the deployment of renewable energy capacity was not always the primary goal of these reforms, leading SOEs indeed consolidated their renewable energy capacities throughout these institutional changes. Notably, these reforms have simultaneously prevented the consolidation of fossil fuel interests in a few large power producers, instead incentivizing them to expand into renewable energy.

10.2.2 Transformed SOEs with Strong Interests in Clean Energy

Leading SOEs are indispensable forces in promoting the low-carbon transition in China, and ultimately helping the country achieve its dual goals of peaking carbon dioxide emissions before 2030 and achieving carbon neutrality before 2060. A key outcome of the Chinese central government's restructuring of these SOEs is that the total share of renewable energy capacity within these companies' portfolios increased substantially. By 2022, the share of renewable energy capacities within the Big Five's portfolios ranged between 31 percent and 66 percent and the annual additions to the wind and solar energy capacity reached 16 GW for SPIC, followed by Huaneng (13 GW), CHN Energy (11.8 GW), Huadian (7 GW), and Datang (4.5 GW) (see Table 10.1). The trend is expected to accelerate in the coming years, as the leading SOEs have been awarded many new projects that year, mainly through various procurement programs run by different provinces. It is estimated that among a total of 240 GW awarded wind and solar capacities in 2022, the Big Five plus China Three Gorges secured more than 100 GW. Accordingly, these SOEs have also announced ambitious medium-term targets for further expanding their wind and

	Annual addition in 2022 (MW)	Targets 2021–2025 (MW)	Share of RE in total installed capacity (%)
SPIC	16,000	50,000 (Solar)	65.87
CHN Energy	11,800	70,000–80,000	31
Huaneng	13,000	80,000+	41
Datang	4,500	50,000-80,000	42
Huadian	7,000	75,000	47.2
Three Gorges	N/A	70,000–80,000	n/a

Table 10.1 Annual addition of renewable energy capacity in 2022 and targets by 2025 (in megawatts)

Source: Sohu News and various online data sources.

solar energy capacities by 2025 (also see Table 10.1). In addition, all of them have established dedicated subsidiaries to compete in the growing renewables market for the expansion of wind and solar capacities. Over the past few years, some SOEs have already established distinctive advantages in particular technologies, such as SPIC in the solar PV sector and CHN Energy in the wind energy sector.

Moreover, onshore wind and solar PV projects have largely reached grid parity in China, which means that most of these newly contracted projects are no longer supported by state subsidies. As these wind and solar energy projects are becoming financially viable, they generate notable incomes that further justify their prominence within these SOEs. In comparison, the overall profitability of coal-fired power generation has been reduced significantly along with the curtailment of utilization hours. Although China's investment in coal-fired power generation capacity has increased recently due to concerns over energy security in the aftermath of power shortages in 2021, the actual coal-fired electricity outputs are expected to remain stable as many of these new capacities were added for providing ancillary services and are operating at very low-capacity factors.

A strong interest in renewables is increasingly being reflected in recent statements by relevant practitioners. For instance, an expert from a Big Five company admitted in 2022 that:

nobody invests in coal-fired capacity for a profit nowadays. The money comes from the green energy sector, which is essential to keep the company going. It is just the opposite of the previous years when the green energy segment was heavily dependent on both government subsidies and revenues from coal-fired power capacities. The tables are now turned.³

 $^{^{3}}$ Interview conducted by an author in Beijing, July 2022.

Hence, after the government's reform to restructure these SOEs, leading Chinese power producers began to increasingly diversify their energy sources, and over time, entrench their interest in the clean energy market. In these processes, economic stability and energy security have always been a major concern of the Chinese government. At the same time, with strong commitments to climate action, policymakers in Beijing have been able to merge or regroup leading SOEs in the power sector, with the result being power sector incumbents did not form strong alliances to support fossil fuels and resist low-carbon transition.

10.3 Conclusions

The case of China's power sector reform shows that the state can strategically design policies to avoid potential conflicts with fossil fuel interests and promote the continuing effort for decarbonization. In other words, while it may be difficult to fully eliminate political conflicts between incumbents and rising actors, a strong state can use its regulatory power to manage such conflicts by reconciling different interests. That said, China has a unique political economy context where the state has authority over large SOEs, which are major players in the country's power market. The progress observed in China's power sector is also in the shadow of China's strong commitment to climate action and green development, namely the uptake of the norm to protect the planetary health by China's leadership and policymakers. Otherwise, the government would have had fewer incentives to continuously support renewable energy development.

To what extent can the insights gained from the China case shed light on comparative climate politics, including in other countries with very different political economy contexts? While acknowledging the importance of contextual factors, we suggest that when the state has the capacity to influence the market and regulate businesses, it can provide incumbents with incentives to take stronger action on climate change by reorienting the types of assets held by influential businesses (Colgan et al. 2021; Paterson 2021b). In recent years, many countries have begun to increasingly use industrial policies with the aim of accelerating decarbonization (Allan et al. 2021; Lewis 2021). But the government's support for new technologies alone often cannot address political conflicts between incumbents with entrenched interest in fossil fuels and rising green businesses. Accordingly, the case of Chinese power producer reforms sheds light on the importance of strategic management of political conflicts, and possible ways to prevent the formation or consolidation of anti-transition interests. To achieve such management, policymakers need to carefully design policies, including how to make and sequence institutional arrangements to shift the interest of powerful incumbents or weaken their resistance (Sewerin et al. 2022).

Lastly, we must add caveats to the Chinese case, as resistance to the low-carbon energy transition has certainly not been fully eliminated. To date, many practitioners in the country's power market may still be highly skeptical about the prospect of building a national energy system based on clean energy. Most recently, the power crisis in late 2021 led to the perception that an overly ambitious shift to clean energy was in fact the cause, as opposed to an overreliance on coal (Bloomberg News 2021). Accordingly, in order to continue and accelerate transition, the government needs to provide key actors with further incentives to reduce their interest in fossil fuels and increase their interest in clean energy. This would require the government to manage relevant conflicts in a durable way.

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