



# Chinese State-Owned Enterprises and Decarbonization: Current Status and Trends

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## Executive Summary

State-owned enterprises (SOEs) account for a dominant share of global greenhouse gas emissions, with Chinese SOEs playing a particularly central role. Their scale, political importance, and deep integration into China's energy and financial systems make them critical actors in the country's decarbonization trajectory, while also constraining the pace and form of change. As a result, understanding how SOEs respond to climate and energy policies is essential for assessing China's low-carbon transition.

This examines how institutional incentives, leadership dynamics, and policy signals shape SOE behavior on decarbonization. The analysis finds that while climate-related key performance indicators and policy signals have become more prominent, they often coexist with stronger incentives tied to political priorities, economic stability, and risk management. Financial structures, market design, and leadership norms tend to favour incremental change over rapid transformation, though internal champions and aligned policy–profit incentives can enable more ambitious action in specific cases. Looking ahead, China's Dual Carbon goals remain politically salient, but flexibility in implementation and shifting global conditions suggest that SOE decarbonization pathways will continue to vary widely across sectors and firms.

## 1. Introduction: The Global Scale of SOE Greenhouse Gas Emissions

State-owned enterprises (SOEs) are responsible for a significant share of global greenhouse gas emissions – and combined emit more greenhouse gases than any country except China. Since China is the world's largest greenhouse gas emitting country, and its energy and heavy industry are dominated by large SOEs, China's SOEs alone are responsible for 69% of all SOE emissions globally, according to research published in 2022.<sup>1</sup> Among these, the power sector is the largest SOE emitter, again led by Chinese SOEs, followed by oil and gas SOEs.

China's SOEs are a central stakeholder and powerful influence over energy and climate policy. For example, the State Grid Corporation of China (State Grid) has a rank within the central bureaucracy higher than that of most provincial governors, and above one of the most important government departments making energy policy – the National Energy Administration.

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<sup>1</sup> Alex Clark and Philippe Benoit, 'Greenhouse gas emissions from state-owned enterprises: a preliminary inventory', Center for Global Energy Policy, Columbia University, 2022, at [https://www.energypolicy.columbia.edu/wp-content/uploads/2022/02/SOE\\_Emissions-CGEP\\_Report\\_111022.pdf](https://www.energypolicy.columbia.edu/wp-content/uploads/2022/02/SOE_Emissions-CGEP_Report_111022.pdf).

The largest SOEs typically employ tens of thousands of people and have their own research institutions, or they participate in and cooperation with industry associations that operate at a quasi-governmental level.

Outside the energy and industrial sectors, China's SOE banks are among the largest in the world, and play a critical role in China's energy and industrial sectors. This role is significant not just because of the size of SOE banks or their lending portfolios, but also because China's economic structure and development model have historically relied on low cost of capital for large-scale plant and infrastructure owned and operated by the state sector.

Given that Chinese SOEs are responsible for a large share of the country's emissions, and given their power and influence in setting domestic energy policies, government officials outside of China, international CSOs active in climate policy and related topics, and civil society organizations more generally have sought to engage with SOEs on the topic of decarbonization.

## 2. Report Background

The 21st Century China Center (21CCC) and the Power Transformation Lab, at the University of California San Diego (UCSD) are undertaking research on the topic of China's state-owned enterprise (SOE) decarbonization strategies and the role of civil society and other independent climate experts in contributing to these strategies. A workshop to discuss the topic of SOE decarbonization was held in June 2025 among key experts, and this report represents a summary of the workshop as well as interviews conducted with various organizations involved in the topic of SOE decarbonization or China's low-carbon energy transition.

## 3. SOEs and Decarbonization

China's SOEs are powerful political and economic actors, and play a pivotal role in climate and energy policy. The largest power sector SOEs are heavily invested in both coal and renewables. The largest industrial SOEs are involved in energy- and emissions-intensive sectors such as steel, cement, and construction. Central SOEs have significant political influence, both directly as a result of their organizational ranking as well as the political rank of their exclusively-male individual leaders, all of whom are Party members. Collectively, at the sector level, SOEs and their leaders may influence policy through direct participation in policy decisions, through research produced internally, and through back-channels.

At the same time, as state-owned organizations, SOEs are also subject to direct state control and institutionalized incentives such as KPIs for organizations or leaders, financial targets, and other policy-related targets. It is universally accepted that under the Chinese Communist Party's leadership, SOEs must accept various social responsibilities, including responsibilities that require direct funding. SOEs typically implement these social responsibilities both directly through dedicated social responsibility departments and by coordinating the operational decisions and practices other departments.

## 1. Environmental KPIs

For over a decade, environmental considerations have been made an increasingly important factor in the evaluation of SOEs and SOE leadership. Officially, SOEs and SOE leaders are evaluated using a system of KPIs, and KPIs are important in determining promotion, demotion, and retirement. Assessments of management include ESG factors, energy conservation, ecological assessments, and dual carbon control. Of the KPI points available for various evaluation factors, low-carbon development and green transition amount to around 20% of total points each, making these a significant factor in overall SOE rankings. Overall, SASAC has sent the signal that they would like Central SOEs to lead the green transition, both through investment and also by developing green supply chains and contributing to global governance.

However, the lack of specificity in these matters, the overall low weight of climate indicators, and ease of achieving a high score through low-hanging fruit tend to reduce SOE motivation. Local SASACs have not introduced similar KPIs for local SOEs, clearly signalling a lower priority for these entities. In other cases, KPIs may exist on paper, but some KPIs are more quantitative and carry more weight than others. For example, power construction firms are given targets by SASAC for the value of construction contracts signed, and these targets are translated down to the branch and employee level, emphasizing their paramount importance, whereas some environmental KPIs might be only qualitative or applied to the whole department or organization. Other factors like 'political attitude' might account for 15% of total KPI, but be purely qualitative or depend on personal factors. KPI rankings may be manipulated by officials at all levels to avoid embarrassment for the Party and top SOEs. This factor may explain why the largest SOEs always obtain high ratings. This undercuts the idea that KPIs are objective or purely quantitative, or that the inclusion of environmental KPIs and their rising share of total score itself reflects a true measure of performance.

At the same time, however, SOEs and SOE leaders report that environmental or climate-related KPIs matter, especially in certain circumstances. Central SOEs may want to ensure that they do not rank lower on such KPIs than any local SOE, for example, and SOEs may want to ensure that they rank near or above a key competitor or comparable SOE in the same sector or level. Top-ranked SOEs may have their names highlighted in Party media and their leaders selected for promotion. In some cases, external rankings can have a similar influence, such as ESG rankings or green banking reports. Such rankings can not only motivate SOE actions to improve rankings through better performance, but can motivate them to contact external experts or organizations to learn how to improve performance, if only to improve their ranking.

## 2. Relative importance of policy priorities to economic priorities

The central government has also made it clear that environmental and other policy considerations are paramount for SOE leader decisions, even if financial performance also remains a relevant factor. (The current financial assessment for 2023 to 2025 is based on

‘one profit, five ratios’, referring to financial ratios such as ROE.<sup>2</sup>) Policy priorities for SOEs include complying with national industrial policy, participating in international initiatives, maintaining social stability, managing crises (such as economic downturns or power shortages), contributing to national strategic priorities, exporting industrial overcapacity through investments abroad. Although in 2013 President Xi emphasized that China would seek to ensure markets played a ‘decisive role’ in the allocation of natural and environmental resources, the phrase was not included in the 2015 SOE reform documents, which instead indicated that the Party would be at the core of SOE governance structures. In 2017, SASAC issued an order for SOEs to incorporate the Party in their main governance documents, and in 2017 new SOE reform policies emphasized placing the Party at the center of SOE governance. That said, while SASAC has attempted to play a leadership role, there is also a sense that SASAC’s political importance within the SOE and political structure has declined – SASAC itself was not put in charge of SOE reforms, but rather to various leading groups and other bodies.

In the meantime, although the government sought to encourage private investment in SOEs through the mixed-ownership reform – ideally to both encourage private capital and expertise to help SOEs improve efficiency and performance, as well as to encourage SOE investment in SOEs – there were few opportunities for private investors to contribute such expertise or influence decision making at SOEs, or to benefit financially from any efficiency gains or joint projects.

With this background, it is little surprise that SOEs have felt increased pressure to prioritize policy goals in comparison with profit motives. Based on discussion with SOEs, it appears that before 2015 many SOEs had an internal rate of return (IRR) hurdle rate of around 10%, but this now may be closer to 3-4%. Similarly, Rhodium Group research indicates that the return on equity (ROE) of SOEs in China is as low as 3%, compared to 6.7% for private companies in 2020.

In addition to the carrot that KPIs might offer, or the importance of central government policies rising over time, the stick is also important to SOE actions on decarbonization. This includes especially the decision from China’s top leaders that SOE officials would have lifetime liability for environmental malfeasance or poor performance. Prosecutions for corruption in the power sector, as well as Central Environmental Inspection Team activities – including an inspection of NEA – have emphasized these elements of control. However strong this ‘stick’ may be, it can nevertheless vary over time, especially given the existence of other state priorities that carry their own ‘stick’ – such as President Xi’s statements emphasizing the importance of energy security and the absolute need to ensure against power outages.

### 3. Economic and financial incentives at SOEs

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<sup>2</sup> ‘SCIO briefing on better pursuing high-quality development of central SOEs by boosting their core functions and competence’, State Council Information Office, 24 January 2024, at [http://english.scio.gov.cn/pressroom/node\\_9006722.htm](http://english.scio.gov.cn/pressroom/node_9006722.htm).

At an economic level, the climate and energy policy decisions of SOEs are undoubtedly influenced by multiple factors – economic, policy, and institutional. SASAC requires that SOEs must focus investments and assets on core activities. This measure, possibly introduced to discourage real estate speculation or diversification into totally-peripheral sectors such as filmmaking or shopping malls, could contribute to more risk-averse decision-making related to low-carbon investments or R&D. To ensure investments correspond with this requirement, SOEs must submit annual work and investment plans for SASAC's evaluation. For SOEs in the coal, oil or gas sectors, such requirements (and the negative scrutiny that non-core investments could attract) may exacerbate carbon lock-in by ensuring these SOEs continue to invest cashflow in their existing fossil fuel businesses or in related activities that consume these fossil fuels, such as power generation or coal-to-chemicals.<sup>3</sup> SASAC also manages risk on investments including lifetime accountability for major asset losses, which in addition to increasing risk aversion could also lead SOEs to focus on the largest projects with the widest political support.

A myriad of financial considerations also affect SOE behaviour, some of which favour clean energy investment, while many inhibit it. China's present economic model is characterized by high savings rates, low individual consumption, and fixed low interest rates for savings – sometimes known as 'financial repression'. In this system, SOEs benefit from an extraordinarily low cost of capital, which leads to high levels of fixed-asset investment. Much of this investment is guided and approved by the state, such as through local Development and Reform Commissions (DRCs) and through annual plans submitted by SOEs to SASAC.

China's financial system is also less prone to the types of investor or public pressure that have helped diversify energy sector investments and promote consideration of ESG factors in other regions. While China has introduced green bonds and green taxonomies, most SOE investments are financed with direct lending by SOE banks, or via syndicated loans. In some cases, overseas projects by SOEs may be co-financed by multilateral development banks. In turn, such loans tend to favour projects undertaken by SOEs or sovereign-backed entities. In any case, the low profile of bonds in SOE financing and the immaturity of the green bond market, combined with the extremely low cost of capital for Chinese SOEs, together make it unlikely that green bonds themselves, or green financing more generally, will influence the investments or behaviour of SOEs. Instead, green bonds are primarily a way of political signalling, often as a way for getting credit for investments in renewables that may have happened anyway, and have little connection to emissions reductions.

While the authority of the Party and SASAC over SOEs may broadly help align investment with state priorities, nevertheless excessive investment in capital-intensive projects is built in, and likely contributes to low economic returns for such projects. This relationship can lead to overcapacity in SOE-dominated fields such as power generation, renewables, steelmaking, and cement – as well as in industries favoured by state policy such as new energy vehicles (NEVs). Within the field of clean energy, the need to invest excess cashflow

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<sup>3</sup> In this context, 'lock-in' refers to the social factors that may lead economic actors to decline to invest in profit-maximizing or high-returns projects in low-carbon sectors, as well as the physical lock-in of emissions through investment in high-emissions capital assets.

or capital quickly tends to favour larger projects – not because they are less risky, but because such projects are easier and faster to evaluate, may benefit from greater government support, and may lead to long-lasting assets that can benefit empire-building-related objectives. In contrast, smaller investments in energy efficiency, distributed energy, or more effective business practices and software may be more difficult.

SOEs and SOE banks complain they have money available for various low-carbon investments, but have a shortage of viable projects, especially when investing abroad. Chinese lenders, including policy banks and the Asian Infrastructure Investment Bank (AIIB), have short timelines for completing loans and ‘getting money out the door’, but are sometimes reluctant to engage in or fund project preparation activities, especially for smaller projects in fields like renewable energy or energy efficiency. As for transition finance, currently there is limited activity and little appetite for scaling.

#### 4. SOE leaders and decarbonization

Risk aversion has long been a challenge for SOEs, and this has notable effects for the energy transition – especially as it relates to innovation or investment in new sectors. An evaluation of SOE leaders in position between 2003 and 2022 suggests an average age of 56. SOE leaders are increasingly well-educated, typically in technical fields, but most have deep sector or company experience rather than political backgrounds. Career tracks of upper management typically remain within a single industry, often within a single business group, sometimes with a period working in an industry-related supervisory agency.<sup>4</sup> Though KPIs are important, career advancement depends on maintaining good relationships with superiors.<sup>5</sup> Though Chinese policy has worked to professionalize the management ranks of SOEs and to open SOE management to managers with international experience or even to foreign executives, in practice only a tiny fraction of SOE managers have international work experience or degrees.<sup>6</sup> Recent policy changes have begun to exclude those with foreign study experience or international work backgrounds from working at SOEs at all – and even travel abroad is limited due to passports being sequestered and used only for official functions. Though most SOE managers hold Party and management roles at same time, and in theory can play a bridging role between policy and industry, in general the Party positions held by senior managers are low-ranking and may not imply any direct ability to influence policy. Although movement of SOE leaders among SOEs has become more common under President Xi, these are mainly lateral moves, and SOE managers rarely ascend to important political roles.<sup>7</sup> These factors could all lead to increased risk-aversion and unwillingness to explore or pursue innovative strategies or technologies, though this is difficult to determine.

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<sup>4</sup> Kjeld Erik Brødsgaard et al., ‘China’s SOE Executives Drivers of or Obstacles to Reform?’, *Copenhagen Journal of Asian Studies* 35(1), at <https://doi.org/10.22439/cjas.v35i1.5399>.

<sup>5</sup> Qingquan Xin et al., ‘West meets east: Understanding managerial incentives in Chinese SOEs’, *China Journal of Accounting Research* 12, 2019, at <https://doi.org/10.1016/j.cjar.2019.04.001>.

<sup>6</sup> Li-Wen Lin, ‘Reforming China’s State-Owned Enterprises: From Structure to People’, *China Quarterly* 107, 2017, at <https://doi.org/10.1017/S0305741016001569>.

<sup>7</sup> Wendy Leutert, ‘The Political Mobility of China’s Central State-Owned Enterprise Leaders’, *The China Quarterly*, Cambridge University Press, 223, March 2018, at <https://doi.org/10.1017/S0305741017001412>.

SOEs also offer several examples of entrepreneurship and clean energy champions, somewhat in contrast to the idea that incentives and culture at SOEs tends towards risk aversion and focus on protecting incumbent industries at the expense of investing in cleaner energy or energy efficiency. For example, one China Power Investment CEO advocated internally for a greater focus on solar PV, arguing that its cost was likely to fall faster as production in China scaled up, as compared to wind power, which depends on the price of steel. Similarly, Huaneng's leaders took the initiative to visit provincial officials to directly negotiate lower rates of wind and solar curtailment.

Such examples of 'champions' suggests not only the existence of entrepreneurship and risk-taking, but also the role of policy and profit incentives in counteracting conservative tendencies of SOEs. Returning to points made above, interviews with Huaneng officials suggest that they have been motivated to earn extra evaluation points for promoting energy conservation and clean energy, while seeking to avoid being called in for questioning if their units don't act aggressively to implement clean energy goals. In addition, wind and PV have often been the main profit driver for many SOEs in recent years, as low power prices and high coal prices – combined with falling utilization – has squeezed coal power profits or forced plants to run at a loss. From the beginning of wind and solar in China, SOEs have been at the forefront: though private companies have led in manufacturing, SOEs dominate the construction and ownership of power plants – especially given their low cost-of-capital.

Nevertheless, multiple factors continue to influence individual SOE leaders in more conservative directions, and the stance of an SOE on clean energy often depends on an individual leader's background and their view on coal. For many SOE managers, the primary skill is managing existing infrastructure, gaining approval for new, large-scale investments and maintaining good relations with higher officials.

## 6. Power market reform has had mixed results for SOE behaviour

When China's central government launched the latest era of power market reforms with the publication of Document No. 9 in 2015, there were high hopes that the country would shift towards liberalized power markets that would inherently benefit the energy transition by encouraging dispatch of low-marginal-cost renewables, and facilitating the establishment of regional power markets that would enable sharing of reserves and dispatch of renewable energy over wider geographical areas.<sup>8</sup> However, reforms have proceeded slowly, and the power markets that have evolved are focused on trading power over monthly and annual periods, known as mid-to-long-term (MLT) trading. Spot markets exist in only a few provinces and trade at low volumes.<sup>9</sup> Given their variable output, renewables are at a disadvantage in MLT markets, and are pushed to participate in spot markets, driving prices down for their output. Most power takes place within provinces, and transmission remains

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<sup>8</sup> Max Dupuy, Frederick Weston, 'A New Framework for China's Power Sector', Regulatory Assistance Project, 23 March 2015, at <https://www.raponline.org/blog/a-new-framework-for-chinas-power-sector/>.

<sup>9</sup> Anders Hove, 'New moves in China's power market reform chess game', Oxford Institute for Energy Studies, November 2023, at <https://www.oxfordenergy.org/publications/new-moves-in-chinas-power-market-reform-chess-game/>.

scheduled over longer time periods, limiting the transmission system's role in sharing reserves or dispatching renewables over large areas.<sup>10</sup>

Particularly since the occurrence of large-scale power outages in Northeast China in 2021 and Sichuan in 2022, provincial officials have focused on an enormous build-out of coal power, apparently to ensure peak demand can be met with in-province generation in the event of another power crisis. Further incentivizing the turn back to coal, in 2023 the central government announced a new capacity payment mechanism that would award most coal plants RMB 100–160 per kW of capacity,<sup>11</sup> and in 2026 several provinces have raised coal capacity payments further.<sup>12</sup> Capacity payments are not calibrated to the local need for such capacity – indeed, many provinces have higher coal capacity than peak load, and new coal capacity is not necessarily concentrated in regions that are short of capacity. Apparently, the payment mechanism was geared primarily towards solving the problem of financial losses at coal plants, rather than narrowly meeting energy security or market efficiency goals.<sup>13</sup> Though some provinces have introduced capacity payments for gas-fired power or energy storage, these remain in the minority and the topic of a more technology-neutral or market-based payment mechanism remains under discussion.

The relative contribution of provincial officials and SOEs to the coal buildout is unclear. Media reports have quoted SOE officials saying they view new coal capacity as unattractive, but have acceded to local officials' requests to build more, even in provinces with ample capacity.<sup>14</sup> However, recent visits to the Big Five power generation SOEs in provinces with high coal, wind and solar capacity suggest that the SOEs view new coal investments as likely to be profitable, and also benefit the provincial subsidiaries of the national SOEs by squeezing out smaller players and replacing provincial power imports. Central SOE managers therefore seek to boost provincial branch revenue, not optimizing for company-wide or industry-wide profitability. The central government's purpose is to counter this local interest through reforms, but most recent reforms continue to place most market design decisions in the hands of provincial officials and limit the role of inter-provincial trading.

Document 136, which requires all renewables added after 1 June 2025 to sell power output on a market basis,<sup>15</sup> is a case in point of how national policy leaves provincial officials in the

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<sup>10</sup> '2024 年度中国电力市场发展报告 [2024 China Electricity Market Development Report]', National Energy Administration, June 2025, at [https://www.nea.gov.cn/20250717/54ae0fdb11f04b39a5b670999c04ef81/2025071754ae0fdb11f04b39a5b670999c04ef81\\_19fe782a11f3aa40209907a80e3e692150.pdf](https://www.nea.gov.cn/20250717/54ae0fdb11f04b39a5b670999c04ef81/2025071754ae0fdb11f04b39a5b670999c04ef81_19fe782a11f3aa40209907a80e3e692150.pdf).

<sup>11</sup> '关于建立煤电容量电价机制的通知, National Development and Reform Commission, 10 November 2023, at [https://www.ndrc.gov.cn/xwdt/tzgg/202311/t20231110\\_1361899.html](https://www.ndrc.gov.cn/xwdt/tzgg/202311/t20231110_1361899.html).

<sup>12</sup> '12 地已上调煤电容量电价! 他俩, 一次到“顶” [12 provinces raise coal power capacity payment, two up to the cap]', Beijixing, 18 January 2026, at <https://mp.weixin.qq.com/s/ffiyS054feT4P4DAkowpjA>.

<sup>13</sup> Mingxing Zhang, 'China's 'capacity payments' boosted coal-plant revenue by up to 8%', Carbon Brief, 12 June 2025, at <https://www.carbonbrief.org/quest-post-chinas-capacity-payments-boosted-coal-plant-revenue-by-up-to-8/>.

<sup>14</sup> '陈宗法: “十五五”煤电仍有发展空间', Beijixing, 25 June 2025, at <https://m.bjx.com.cn/mnews/20250625/1448049.shtml>.

<sup>15</sup> '关于深化新能源上网电价市场化改革促进新能源高质量发展的通知 [On Deepening Energy Reforms of Grid Pricing for Renewables to Encourage Renewable Energy High Quality Development]', National Development and Reform Commission and National Energy Administration, 25 February 2025, at [https://www.gov.cn/zhengce/zhengceku/202502/content\\_7002959.htm](https://www.gov.cn/zhengce/zhengceku/202502/content_7002959.htm).

driver's seat. Provincial officials are responsible for designing auctions to determine the allowed market price range for wind and solar energy (with the price range for each set separately, for an initial period at least), as well as for the volume that will be compensated within this range under a contract-for-difference mechanism. The costs of any difference will be paid from local electricity revenue.<sup>16</sup> Provinces still have to meet their mandatory renewable obligations, and several provinces have significant renewable industries that might be damaged by a collapse in local installations – giving officials incentives to avoid an industry collapse. Uncertainty has led to an unprecedented rush to install projects before the cutoff date of 31 May. For provinces that have published rules and held auctions under the new policy, wind and solar have been awarded prices that are substantially lower than prior rates, but likely still at levels needed to support ongoing additions.<sup>17</sup>

Whatever the views of SOEs on the future of renewables versus coal, such policies undoubtedly affect SOE behaviour. Several central SOEs have started divesting renewable assets since Doc. 136 was announced in February. One provincial region – East Inner Mongolia – has even announced that no new renewables will qualify for the 'mechanism price' due to the province already meeting its renewable obligation. Further, regarding coal plant construction, SOE officials can reasonably argue that such investments were made on the instruction of policy makers, as opposed to as a pure investment strategy, and must be paid off as a matter of policy. In addition to formal lines of communication, SOE leaders can and likely do communicate the need for coal capacity payments or construction of new coal power assets by raising the threat of new power outages with local and national officials – and given the information asymmetry within China's power sector, recent experience with power outages and rising peak loads, and top leader statements on energy security, such threats likely hold significant weight with officials that might otherwise insist on greater justification.

## 7. International SOE investment in fossil fuels

SOEs are at the forefront of energy and mining sector investments abroad. As noted above, there are various financial factors that may lead Chinese SOEs to focus on fossil fuel-related investments. These include the need for sovereign guarantees, especially related to projects connected to development finance, and the bias towards larger investments to minimize transaction cost. Additionally, SOE leaders may be most comfortable dealing with government officials and fellow SOEs, rather than investing in private companies or smaller projects. Officials in countries seeking Chinese deals may also be influenced by powerful local SOEs, such as electric power monopolies, mining companies, national oil companies, or construction firms. Ironically, recently climate negotiations that established targets for tripling of global renewable capacity – which emphasized growing renewable capacity in the developing world in particular – also focused on assisting private companies to make such investments over SOEs. This could have the paradoxical effect of discouraging both

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<sup>16</sup> Da Zhang, et al., 'Dynamics of the power sector transition in China: a system mapping study', S-curve Economics, June 2025, at <https://www.scurveeconomics.org/publications/dynamics-of-the-power-sector-transition-in-china-a-system-mapping-study/>.

<sup>17</sup> Shannon Dong, et al., 'China's First CfD Auctions to See Fierce Solar Bids', Bloomberg New Energy Finance, 30 October 2025.

Chinese and non-Chinese SOEs from investing or participating in renewable investments with others.

#### 4. Likely Trends of Chinese Climate Policy that Might Affect SOE Decarbonization Strategy

China's commitment to decarbonization is strong and the country is likely to remain committed to the Dual Carbon goals. Aside from the strong commitment of President Xi, which no other Chinese leaders can contradict, another important factor is that the Dual Carbon strategy is interwoven into various public timelines as well as to the release of related plans. This includes the 15th Five-Year Plan, the commitment to implement a national power market design by 2030, and intention to transition to a policy of dual carbon control in the near term. A recently-released action plan announcing an expansion of the carbon ETS and a firm emissions cap is another signal that China's commitments aren't wavering.

China's decarbonizing agenda revolves around a development strategy. This has both positive and negative effects for decarbonization. First, the state is likely to continue to support the New Three – solar, batteries, EVs – that have contributed to strong growth in recent quarters. While integrating renewable energy may be perceived as a challenge, and even a costly one, backing down from renewables to avoid those costs would carry a heavy penalty for a domestic industry and growth model in some regions. The example of these industries' success is also an impetus for greater effort on hard-to-abate sectors. Second, the alignment of some sectoral development goals and carbon policy means that international pressure is less of a driver of climate than it might otherwise be – and China's own exports could benefit from other countries moving faster on climate as well.

However, the relationship between growth and decarbonization is not always apparent in every sector, and certainly not for all SOEs. For most SOEs, decarbonization strategies revolve around improving efficiency while maintaining an existing asset base, and potentially expanding that asset base. For industries whose core business is least aligned with national decarbonization or clean energy development, there can be resistance and efforts to negotiate a go-slow approach.

Flexibility and ambiguity are also hallmarks of China's climate commitment, and top leaders and individual SOEs have varied their efforts on climate depending on economic or geopolitical conditions. Currently, the perception is that most SOEs and experts anticipate a high carbon peak and a long plateau. This implies that for many SOEs, business-as-usual can continue, as long as it doesn't get too far out of line with what others in the same sector are doing. Recent developments in the coal-to-chemicals sector are an indicator of the relative priority attached to the carbon peak versus local economic goals and security.

Lastly, there is a perception that much of the climate and environmental push in the last decade emanates from President Xi, with little buy-in from powerful SOE interests. This means that course changes could happen abruptly, as happened when the Dual Carbon targets were announced. President Xi and future leaders could very well lose interest in the environment,

feeling that China has done enough or other issues (development, security) take precedence. This may be particularly so given the widespread perception that China receives unfair international criticism on climate, while other countries have rolled back climate commitments.

## 5. Impact of Global Backsliding on China Climate

Given that China's climate commitments come from the top, and have weathered past reversals in U.S. administrations and global economic conditions, there is little expectation that backsliding or backtracking on climate commitments in other countries will affect China's course. Especially for SOEs, the signal from the central government is all-important.

Nevertheless, international events will have an impact on China's domestic and international climate stance. Even before the U.S. election, those familiar with China's leadership indicated that a Trump victory would affect the contents of China's 2025 Nationally Determined Commitment (NDC) document, now widely seen as underwhelming. European policy is likely to have a larger near-term impact, as can already be seen with the Carbon Border Adjustment Mechanism (CBAM). Though CBAM has been delayed and some aspects can be watered down, China has likely already responded to CBAM by expanding the sectors covered by the ETS, making greater efforts to ensure global recognition of GECs, and continuing to push for improved measuring, reporting and verification (MRV).

Chinese SOE commitments or decisions on climate may not entirely please either climate experts or Chinese officials, however. Whereas the Chinese government would like SOEs and state-owned research institutes to play an active role in developing global standards and strengthening multilateral climate institutions, the participation of such organizations in global climate talks has often been perfunctory – a matter of 'checking the box.'

## 6. Conclusions

Overall, Chinese SOEs are diverse, and so are their approaches to decarbonization. There are reasons for both optimism and pessimism about SOE motivations and action to meet China's Dual Carbon goals and generally play an active role in the low-carbon transition. The strong influence of the state is one factor in behaviour, in signalling priorities and rewarding compliance with policy objectives. Self-interest, complacency, and ties to energy- and emissions-intensive investments reduce motivation. But even among SOEs in old-line sectors, there exist champions for change at the top, and working-level managers and researchers who see opportunities to grow and benefit from best practices or taking the lead domestically.



## 21st Century China Center

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The Power Transformation Lab at the University of California, San Diego studies the engineering and institutional requirements to deploy low-carbon energy at scale. We work with academic, government, civil society, and industry partners to advance research and solutions to the climate challenge centering on the role of the power grid. Our areas of focus include renewable energy resource planning, affordable and reliable low-carbon power markets, and the political economy of industrial policy and low-carbon transitions in firms. Learn more at [pwrlab.org](http://pwrlab.org).

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