



# LOW-CARBON TRANSITIONS IN CHINA'S STATE-OWNED ENTERPRISES

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## SIX KEY TAKE-AWAYS

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**UC San Diego**  
SCHOOL OF GLOBAL POLICY AND STRATEGY  
21st Century China Center



# WORKSHOP ON LOW-CARBON TRANSITIONS IN CHINESE STATE-OWNED ENTERPRISES

## SIX KEY TAKE-AWAYS

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These takeaways represent significant points made during the discussion at the “Workshop on Low-Carbon Transitions in Chinese SOEs” held at UC San Diego on February 23-24, 2023. They are not consensus observations.

1.

### **China’s SOEs hold the keys to decarbonization, with central and local SOEs performing unevenly.**

China’s SOEs are critical to the climate challenge, with the coal sector looming large. Half of China’s CO<sub>2</sub> emissions come from SOEs, and over 95% of coal assets are owned by SOEs. In heavy industry, state ownership shares and climate commitments vary to a greater extent, with more commitments in the petrochemical and steel industries compared to cement and aluminum. All central SOEs, regardless of sector, are required to complete carbon peaking and neutrality plans. Per recent SASAC guidance, these should have been completed by 2022, although many are still pending and may not include detailed implementation steps. These central SOEs have generally outperformed their provincial counterparts, likely due to local SOEs’ accountability to local governments who may not see climate goals as a priority. Frequent rotation of executives, conflicting priorities, and the government serving as a manager will make consistent implementation of climate goals a challenging task for the entire SOE sector.

2.

### **The road to decarbonization in China runs through the Party and the market.**

Recent years have seen rising party control of SOEs at the same time that SOEs have regained prominence in some market sectors. Managerially, the party has stepped back into a more directly controlling role, enhanced by efforts from 2015 to reintegrate the party into SOE corporate governance. Today’s SOEs have been tuned to be highly responsive to a decisive, top-down governance system within China, simultaneously increasing the risk of political influence over commercial decisions in the eyes of international actors. This also means that market pressure and informal instruments will be less effective in encouraging them to pursue decarbonization goals. When measuring the extent of SOE reform, a conflation between privatization and marketization continues to exist in the international discourse, although internally in China there is much less appetite for privatization or mixed ownership reform. An important task is to understand how SOEs behave in markets, even in absence of privatization.

The changed governance structure and reaction to incentives call for rethinking some approaches to decarbonization in the PRC. Climate policy recommendations by many foreign governments and Bretton Woods institutions envision high market incentivization, transparent corporate governance, and significant privatization. A prominent complaint has been that China's SOEs have a persistent, unfair advantage through subsidization. SOEs' political advantages also extend to financing, regulatory approvals, and doing international business. However, SOE returns on assets are only around 4%, compared to around 7% for private enterprises. If the goal of SOE reform is climate effectiveness, not corporate efficiency, incentives tailored for SOEs taking account of the government role may be an easier path to decarbonization. These could include utilizing the power of government as SOE shareholder; messaging consistently across different government owners, SASAC, and the provinces; aligning management incentives, government appointments, and training with the energy transition; implementing shadow pricing; and mobilizing finance via state banks.

3.

**China's SOEs are active in overseas sectors with high environmental impact, and their overseas activities vary in their susceptibility to pressure, advocacy and shaping by host countries and international actors.**

China's SOEs are most active in overseas sectors with high environmental impact, including extractive industries, agriculture, and infrastructure (telecommunications and energy). Investment is growing in manufacturing and services across the board. In Latin America in particular, investments are growing in extractive industries needed for clean energy technologies. In the power sector, SOEs' overseas investments have been concentrated in transmission, coal, hydropower, and large wind projects, due to their size. Smaller renewable energy projects are less attractive to SOEs, with the possible exception of some small hydropower projects. Importantly, policy on incumbent state-linked firms can be shaped by advocacy efforts and changes on the ground in host countries. China's decision to exit overseas coal finance in 2021 is an example of declining demand and intense international and domestic pressure degrading the power of incumbent coal export firms. However, SOEs are reluctant to talk to civil society organizations in host countries. Institutionalized SOE communications typically stay within government channels due to the political structure of host country and the role of host country partners.

**4.****Central SOEs are backstopped by the government, reducing financing risks for the transition at least in the medium term.**

At the highest level, there are many good signs for financing China's decarbonization transition. Investors are not worried about China's power SOEs' transition financing. The largest SOEs are not highly leveraged in debt. Smaller, second tier SOEs that are more leveraged constitute a minority in the power sector. They are present in segments of clean tech sectors, such as distributed solar. Funding constraints are real, but only in the long term. Rating agencies count on strong state involvement and support to reduce risks. Central SOEs are fully backstopped by the central government via state-owned banks and the bond market, leading to a high credit rating. For example, in giving Huaneng an "A" rating, [Fitch highlights](#) prior capital infusions and the large socio-economic implications of default. For this reason, cash flow is more important than profit to SOEs. The biggest risks to SOE debt are broader macroeconomic troubles, not specific projects. Local government debt and the real estate decline are the largest uncertainties which pose systemic risks. State-led financial innovations, including government guidance funds and venture capital, are less prominent in the green transition. These innovations are concentrated in emerging high-tech sectors, only a small portion of which are green tech. One implication for the climate is that financing at the sovereign level may be more successful than individual facilities. A system-level – as opposed to asset-level – assessment is more appropriate for SOEs.

**5.****SOEs take on large burdens of transitioning assets and workers, which impact government revenues and will require large redistributions.**

Official coal sector employment has fallen in half since 2013, driven by mechanization and SOE consolidation. These statistics may only record direct employment, not "dispatch contract" and temporary workers. SOEs have several methods of addressing displaced workers, including internal (e.g., into other subsidiaries) and external (e.g., supporting entrepreneurial enterprises, early retirement) options, in addition to contract termination. Central and local governments support SOEs with transition assistance and resettlement. For example, the center has established a [100 billion RMB transition fund](#) for overcapacity sectors, which has not yet been fully utilized. Local governments may provide "employee retention" support or directly employ displaced workers. Coal phase-down will likely be revenue-neutral or positive in the aggregate, though the government will need to play an important redistributive role. Fiscal transfers to large coal mining provinces can limit the impact of declining resource tax revenues that represent large shares of provincial revenue.

## **Increased Party involvement could strengthen SOEs in their decarbonization efforts, but only if not burdened with competing goals.**

Increasing Party control of SOEs has mixed expected results for decarbonization efforts, with numerous challenges and some opportunities. SOE corporate governance activities in terms of board meetings remain opaque, coinciding with increased Party committee activity. Instead, there is a deliberate, politicized and formal fusion of board and Party committee authority. The Party committee has traditionally focused on personnel and political matters. Its oversight and operational functions were originally weak but are now elevated. At the center, SASAC's power is weakened and fragmented. The Party's Central Organization Department appoints leaders of "core" SOEs, while SASAC appoints non-core SOEs. In both cases, SOE executives are part of an internal labor market with limited private sector experience. The new lifetime responsibility system (终身责任制) requires cadres to be responsible for decisions even after leaving the firm or retiring. This is more concerning to low-level SOE managers than the anti-corruption campaign, leading to cautious, risk-averse behavior. SOE managers further from retirement and with less time in the industry have higher mobility and tend to take more risks.

When it comes to decarbonization, it is important to remember that SOEs have some incentives to set goals for political reasons without expectations of fulfilling them. On one hand, increased Party involvement could more effectively guide initiatives such as decarbonization. Party hierarchy and centralization should increase responsiveness. On the other hand, expanding Party goals embedded in KPIs will generate more confusion on prioritization. Challenges to effective Party oversight abound, in part because competing goals exist within the Party itself, as well as among central, provincial, and local governments.



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GPS, where 21CCC is based, is among the world's top graduate schools of international relations and public policy. The school's pioneering research builds on internationally recognized expertise of the Americas and Asia, integrates analysis of public policy and markets, and explores global issues of conflict and cooperation. Leveraging our West Coast location and UC San Diego's renowned programs in science and technology, GPS develops new analytic tools with real-world applications, while rigorously training the next generation of global leaders. Through collaborations across campus and counterparts around the globe, the school shapes cutting-edge solutions for a world in transformation.

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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.

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