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Policy brief

Lessons from using state organs to finance the green transition in China

Summary

- The state-led nature of China's political economy model enables the government to steer capital towards a green transition. This includes state ownership of companies, financial institutions and a non-independent central bank.
- Through a top-down approach, a wide range of central and local government bodies issue mutually supporting policies across different aspects of the financial system. These efforts are coordinated through overarching policy 'guidelines' jointly issued by the State Council as the top-level government body, alongside seven ministry-level bodies.
- China has utilised several innovative green financing policies, such as greening collateral within central banking, macroprudential assessments and targeted longer-term relending operations. These policies have been cenral to lowering the cost of capital for renewable energy projects.
- State-owned enterprises play a core role in ensuring demand for clean technologies in China, while state-capitalised private equity funds have been pivotal in ensuring adequate risk-willing capital for new technologies.
- These tools have led China to dominate the global manufacturing and deployment of green technologies, especially wind power, solar power, batteries and electric vehicles.
- Although the policies adopted by China have commonly been considered inefficient in Western states, countries around the world can learn important policy lessons from China by using similar state-led approaches and tools. While some tools are dependent on China's institutions, many can be used in other countries' own political and economic circumstances. Many countries similarly use central banking, state-owned enterprises and state-capitalised private equity funds. However, the key lesson from China is that these tools should be used at a far more ambitious level to play a more central role in providing the capital needed for a green transition.

Policy briefs provide analysis on topical issues, presenting specific recommendations to inform ongoing policy debates. Drawing on the Grantham Research Institute's expertise, they summarise either our research findings or the state of knowledge about a particular issue.

This policy brief was written by **Mathias Larsen**.

This policy brief describes the key state-led policies China has enacted to steer capital towards a green transition and draws out lessons for other countries, particularly emerging markets and developing economies (EMDEs).

Background: from a state-led political economy model to state-led green finance policies

How China finances a green transition is based on the country's state-led political economy model. This model entails the state being able to control and direct the development of the economy in a chosen direction. Balancing state direction with market mechanisms, the Chinese government terms this approach "market-driven, government-guided" (*shichang zhudao, zhengfu yindao*). This has been a central principle under Xi Jinping's administration and is being applied to accelerating China's transition to a new growth model, including the greening of the economy (State Council, 2014).

The banking sector lies at the core of China's green financing approach. About 85% of financing in China is in the form of loans from domestic banks, the majority of which are state-owned. In the capital markets that make up the remaining 15%, only 3% of bonds and 4% of stocks are owned by foreign investors (Thorsburg, 2021). This approach to financing a green transition has been explicitly stated by President Xi (2024):

> "We must strengthen a two-wheel-driven approach: fully leverage the decisive *role of the market* in resource allocation, build a fair, open and effectively competitive market system, and stimulate the endogenous drive and internal vitality of market entities for green and low-carbon transformation and development. Better exert the *role of the state* by strengthening the guiding role of green development planning, implementing fiscal, financial, investment, and pricing policies and standards that support green and low-carbon development, enhancing market regulation, and fostering a favourable development environment." (Emphasis added)

"Balancing state direction with market mechanisms, the Chinese government terms its approach 'market-driven, government-guided'."

A coordinated policy effort across a wide range of government bodies

China's state-led approach is clearly reflected in how it commits financing to the green transition. The approach entails that planning produces coordinated and mutually supportive outputs across monetary-financial, fiscal and state-ownership measures. Linking these policies together are cross-cutting plans from the National Development and Reform Commission and two organs related to coordination at the level of implementation: the Central Financial Commission of the Chinese Communist Party coordinates all finance-related policies and activities, while the Green Finance Committee provides guidance for specific green sectors. The 2016 Guidelines for Greening the Financial System tie together all government policies on green finance (PBoC, 2016).

As directed by the State Council, the People's Bank of China (PBoC) is the main organising body, coordinating between other government bodies. The Guidelines for Greening the Financial System were issued as a '1+N' policy framework, which means that the Guidelines provide a list of sub-

policy areas where more policies are issued – these are the 'Ns'. In this way, the Guidelines provide the overarching direction and key action areas, while the responsibility for sub-policy areas is distributed between the relevant ministries and regulators. The Guidelines were jointly issued by the State Council and seven ministry-level bodies, with each government body responsible for driving progress on green finance within its respective area.

While the policy sounds flexible, given the term 'guidelines', interviewees in central and local government organisations described it as having 'teeth' in the sense that organisations are held directly accountable if they do not deliver on the affiliated performance indicators (Larsen, 2025). Such indicators include specific goals that need to be achieved by a given date. Simultaneously, in addition to the regulatory part of these policies, China's largest financial institutions are state-owned and, therefore, can also be steered from the inside.

Table 1. Overview of key policy tools

Policy tool	Relationship to China's political economy model	Policy examples
Pollution penalties	Low penalties due to concern for cost and stability when penalising fossil energy	Carbon market began rollout in 2011 but still has no detectable impact on emissions reductions (Sandalow et al., 2022)
Financial regulations	Financial regulations are less central as financial institutions can often be steered from the inside	Information disclosure, environmental/social/governance (ESG) labelling requirements, and sector quotas for the banking sector and institutional investors
Direction-setting	Both state and private actors plan according to guidance from the central government's state organs	Strategic documents that outline long-term industry development, including supporting policy tools
Tax policy	Already low tax level limits the potential impact on both companies and consumers	Consumer-targeted electric vehicle tax rebates
Subsidy schemes	Resistance to change results by focusing on supporting green industries instead of scaling down polluting industries	State-financed feed-in tariffs for renewables; direct payments to electric vehicle manufacturers by scale of production
State ownership *(see Box 1)*	Dominance of state-owned enterprises (SOEs) in strategic sectors and positions in supply chains	SOEs investing in and constructing renewables and grid upgrades
Central banking *(see Box 2)*	The non-independent central bank is used for strategic policy purposes	Preferential treatment of green loans and bonds as collateral, green macroprudential assessments and green-targeted longer-term refinancing operations (TLTROs)
Industry regulations	Strong state interference in industrial development, both historically and today	Requiring electricity storage with renewables, prioritising renewables' access to the grid, mandatory R&D spending
Fiscal policy *(see Box 3)*	A large proportion of GDP is collected by the state rather than households. State willing to take investment risks	Government guidance funds, development banks, local government financing vehicles

Box 1. Using state-owned enterprises to ensure a scale-up of renewables investment

State ownership is used to both develop new technologies and scale up markets. This includes SOEs' roles in supply chains and sales outside of China (Larsen, 2025). This is possible given their position in strategic sectors and their dominant positions, especially in upstream segments of supply chains. As SOEs dominate fossil fuels while private companies dominate renewable technologies, SOEs in some cases become sources of resistance to change from inside the state itself. A compromise between these interests can be seen in SOEs scaling up renewables without reducing fossil fuel capacity. For example, while the state requires SOE power companies to have 50% of their energy coming from renewables by 2025 (SASAC, 2021), no commitment has been made to reduce coal consumption.

Based on these requirements, central state-owned energy companies account for about half of the renewables capacity (Yang et al., 2024). Given that coal assets are concentrated in these companies, their overall share in power generation is even larger, though no accurate quantification exists. To finance wind and solar projects, the SOEs take on loans from commercial and policy banks. Whereas such projects in Western countries use project finance, in China they receive corporate finance (Zhang, 2020). The dynamics in the Chinese banking sector mean that SOEs get advantageous terms for both the cleanest and dirtiest types of projects. In particular, the duration of loans and the interest rates are influenced. The SOE takes loans for energy projects onto its corporate balance sheet, making use of the fact that it is an SOE. Therefore, the terms of these loans directly influence the business choices of SOEs. As clean technologies have distinct financial profiles, such as (often) higher risk and upfront costs, the preferential lending terms for SOEs constitute an advantage for renewables over fossil fuel projects. This, ultimately, advances the decarbonisation of SOEs.

Box 2. People's Bank of China: arguably the only central bank with impactful green policies

Unlike other central banks around the world, which tend to emphasise the risk of climate change, the rhetoric from the PBoC puts clear emphasis on a green transition. As expressed by the 2018–23 Governor of the PBoC, Yi Gang (2023):

> *...we should study and implement Xi Jinping's thought on ecological conservation in an earnest and profound manner, and make utmost efforts to peak carbon emissions before 2030 and achieve carbon neutrality before 2060 (the '30-60' Decarbonization Goal)... In this process, we've managed to give full play to the decisive role of market in allocating resources, and better leverage the role of government at the same time.*

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"As clean technologies have distinct financial profiles, the preferential lending terms for SOEs constitute an advantage for renewables over fossil fuel projects, ultimately advancing their decarbonisation."

The PBoC stands out in comparison to other central banks for its monetary policies, of which it has four:

1. The PBoC accepts green loans within the scope of prioritised sectors as collateral in the short-term standing lending facility (SLF).
2. The PBoC accepts green bonds with an AA rating or above as collateral in its medium-term lending facility (MLF).
3. Commercial banks' green performance is included as a factor in the PBoC's macroprudential framework, which affects the interest rate given to a bank on its required reserves.
4. In 2021, the PBoC launched a green-targeted TLTRO called the Carbon Emission Reduction Facility (CERF). This facility allows banks to lend at a highly subsidised interest rate of 1.75% compared with the approximate 3.65% benchmark loan prime rate for up to 60% of the loan principal for a green project. As of mid-2024, CERF had supported financial institutions in lending US$153 billion (Xue, 2024).

Box 3. The state as a green venture capitalist through state-capitalised private equity funds

State-supported funds, called 'government-guided investment funds' *(zhengfu chanye yindao jijin)*, provide debt and equity to companies in strategic sectors. In addition to central and local government, these funds are capitalised through development banks and commercial banks. As of 2020, US$1 trillion had been raised by such funds, with fundraising plans aiming for US$1.6 trillion, equivalent to 11% of GDP (Naughton, 2021). China is simultaneously enacting a state-led financialisation of governance and a prioritisation of environmental objectives. As a result, dedicated state-backed green funds have grown in scale beyond US$70 billion (Beck and Larsen, 2024). Within environmental policies, funds are identified as one lever among many in China's green transition.

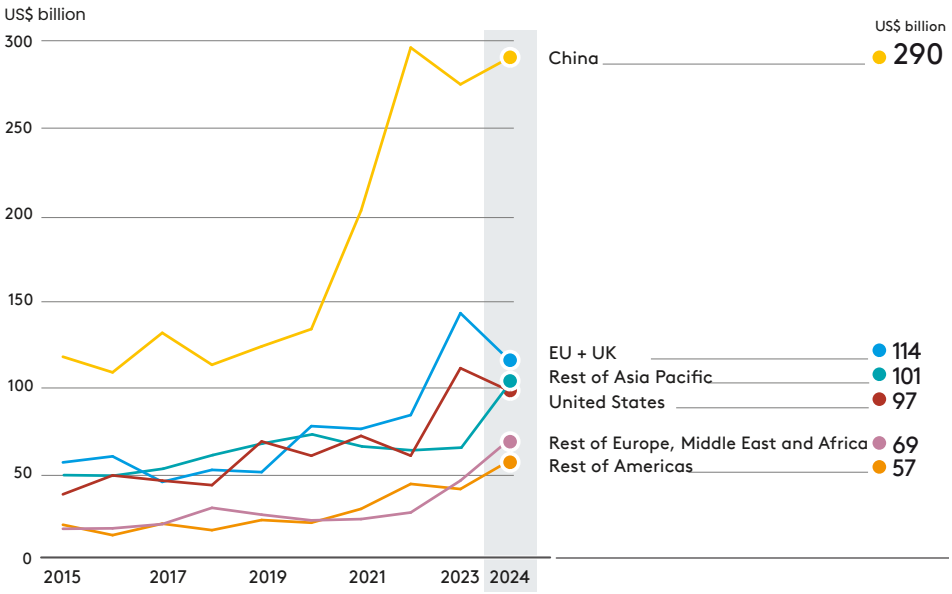
A rapid increase in the number of funds happened around the end of 2015, which corresponded with the introduction of several important policies on financialising economic governance and the initiation of major reforms in the state-owned sector, including a new focus on capital management.

In mid-2020, the Ministry of Finance, the Ministry of Ecology and Environment, and the Shanghai municipal government concluded the financing of a central-level US$12.62 billion 'National Green Development Fund', which was intended to broadly support President Xi's policy vision of a 'Beautiful China'. The large number of provincial green funds shows that central-level policy directives were implemented mainly at the provincial level. In practice, the result is that the green sectors that receive support differ between local governments, as they are based on local competitive advantages (Beck and Larsen, 2024).

"China is simultaneously enacting a state-led financialisation of governance and a prioritisation of environmental objectives."

These policies for financing the green transition play a central role in China's successes in dominating global manufacturing and the deployment of green technologies. For example, Figure 1 demonstrates how China outpaces all other countries and regions in renewable energy investments. Consequently, green industries are an increasingly important part of the Chinese economy and a source of growth. In 2024, these industries made up more than 10% of the Chinese economy, with total sales and investments reaching US$1.9 trillion (Myllyvirta et al., 2025).

Figure 1. Investments in renewable power and fuels by country and region



Source: Ren 21 (2025), using BloombergNEF, 'Energy Transition Investment Trends 2025', 30 January 2025, https://about.bnef.com/energy-transitioninvestment

"China's use of a wide array of policy tools suggests that it is the state-steered nature of China's approach that has ensured rapid progress in the green transition."

How China's policies provide globally-relevant lessons

The Chinese state's capacity to steer financing of the green transition comes from the state-dominated political economy. This is combined with the belief that the markets alone will not deliver adequate support for green industries. Given China's successes in scaling up green financing delivered by this approach, it is worth exploring what lessons other countries can derive, given their different political and economic circumstances. Most fundamentally, the case of China challenges assumptions about the extent to which private capital and market mechanisms are effective tools for ensuring adequate financing. China's use of a wide array of policy tools, as described above, suggests that it is the state-steered nature of China's approach that has ensured rapid progress. Although other countries do not need to imitate this political economy model, they could use many of China's policies – such as state-owned enterprises, central banking and state-capitalised private equity funds – in different forms.

State-owned enterprises

The advantage of using SOEs lies in their ability to consider long-term national interests above short-term profit maximisation. For example,

in Europe, where most energy companies are private, rising interest rates and input prices led to a drastic reduction in wind projects in 2023–24 (Christophers, 2024), whereas in China, in spite of higher input prices and while shielded from interest rate increases with a closed capital account, wind installations continued their upward trend (Yang et al., 2025). Using SOEs as a tool for green transition is, arguably, possible across EMDEs, where SOEs represent at least 50% of the top 10 firms, compared with only 17% in France and 11% in Germany, for example (Kowalski and Perepechay, 2015). This suggests that despite the more limited financial resources common in EMDEs, states have the capacity to use SOEs and the agency to make such a decision. Furthermore, globally, SOEs account for 55% of renewable energy investments (Singh, 2025).

Central banking

Using monetary policy for a green transition is critical as it can lower the cost of capital for green projects. Among the most powerful tools of central banks are green TLTROs, which allow commercial banks to borrow from the central bank at lower interest rates if they lend the capital on to green projects. The Bangladeshi and Japanese central banks also use this tool. EMDEs have far shallower capital markets than those in advanced economies, which means that they have bank-dominated financial systems. Consequently, green TLTROs, are even more impactful, as bank loans are often the only way for green projects to raise capital. Central bank independence is often considered an obstacle to green central banking. Non-independent central banks can, logically, be used by the state directly, and even independent ones can be pushed to take the green transition seriously as they respond to public and political pressure, as seen during the Global Financial Crisis (Moschella, 2024).

State-capitalised private equity funds

These funds can play a central role in helping green technologies develop from a high-risk idea to commercial maturity. The case of China shows that by using the state to scale up such financing alongside the private sector, a greater number of green technologies can be developed and reach maturity faster. Even if many technologies fail, the value of the successes of a few can outweigh the costs of such failures (Naughton, 2021). As such funds are directly capitalised by the state, and as the coverage and risks of their mandates are decided by governments, this tool is directly applicable across the world. This type of fund is used in a similar way but on a far smaller scale elsewhere. For example, the European Union's European Investment Fund provides capital for private equity funds to support green technologies. However, this fund is far smaller and far more risk-averse than the Chinese funds.

"China's experience shows how a state-led political economy can mobilise capital for a rapid green transition, offering important lessons for other countries."

Conclusion

China's experience shows how a state-led political economy can mobilise capital for a rapid green transition, offering important lessons for other countries. Through coordinated, top-down policy frameworks, China aligns central banking, financial regulation, SOEs and public investment vehicles to lower the cost of capital and guarantee demand for clean technologies. Innovative tools such as green central-bank lending, macroprudential incentives and state-capitalised equity funds have enabled large-scale deployment and manufacturing of renewables, batteries and electric

vehicles. While China's institutional context is distinctive, many countries already possess similar tools that can be used on a far greater scale. The key lesson is not institutional replication, but greater ambition in using state-led finance to drive decarbonisation.

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