

**CLIMATE INVESTMENT IN CHINA AND
THE UNITED STATES: A COMPARISON
OF POLITICAL DRIVERS**

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Executive Summary

1. The world's two largest carbon producing countries, China and the United States, have recorded rapid investment growth in renewable energy and climate-related industries.
2. However, due to differences in political and governance structures, monetary settings, prevailing market technologies and geographic conditions, the two countries demonstrate varied strengths and weaknesses in promoting climate investment.
3. China has adopted a top-down approach to promoting renewable energy and emission cutting technologies.
4. Since Xi Jinping came to power, Chinese policymakers have begun to consider aggressive mitigation commitments and seek cooperation with the United States due to the urgency of the global climate crisis and China's domestic pollution situation.
5. The United States has enacted a growing number of fiscal and regulatory measures to mitigate climate change across jurisdictions. At the federal level, these have mainly been implemented under Democratic presidential administrations with some Republican Congressional support.
6. US climate proposals have become increasingly bipartisan, as more Republican legislators speak directly of climate change.
7. Additionally, the United States has seen growing popular pressures for new climate policies and actions directed at businesses, universities, large investors and endowments, and all levels of government.
8. These conditions provide widely varying but strong opportunities for China and the United States to accelerate climate investments to achieve aggressive mitigation targets.

9. In China, a large and competitive manufacturing sector combined with active policymaking has helped ensure a collapse in prices for many kinds of clean energy equipment, helping to foster a renaissance in clean energy in both China and the United States.

10. The two countries need to continue climate dialogue and energy cooperation to better understand each other's stances and jointly explore pathways to net zero carbon footprints.

CLIMATE INVESTMENT IN CHINA AND THE UNITED STATES: A COMPARISON OF POLITICAL DRIVERS

Richard YARROW & CHEN Gang*

Political Drivers for Climate Investment in China

- 1.1 A global energy shift, if not a revolution, is currently underway. Both China and the United States, the world's two largest carbon emitters, have seen expeditious investment growth in renewable energy and climate-related industries. However, due to differences in political environments and governance structures, the two countries demonstrate varied strengths and weaknesses in promoting climate investment. The two countries can learn from each other's distinct strengths and weaknesses to identify potential opportunities both for domestic climate programmes, and for energy cooperation to jointly pursue pathways to net zero carbon footprints.
- 1.2 China and the United States once used the other's inaction as an excuse for not pursuing more aggressive cuts to their own domestic emissions. Now, both China and the United States have built environmental protocols into trade policies and international diplomacy, and are competing to earn respect on the global stage for climate-related leadership. Political activity and pressure have provided strong drivers for climate action in both countries: for China, it is thanks to top-down directives for climate action and new expectations for local officials to meet; and in the United States, political pressure for climate action comes from dispersed clusters of environmentally concerned citizens pushing for climate actions at all levels of government and on both the left and the right.
- 1.3 China's climate-related investment has been largely driven by the central authorities' top-down approach of promoting renewable energy and emission cutting

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technologies. On top of China's pledges of peaking emissions before 2030 and achieving net zero emissions by 2060, Chinese President Xi Jinping announced in September 2021 that China would not build new coal-fired power projects abroad. At the United Nations climate summit (COP26) in Glasgow, China formalised its commitment to raising the share of non-fossil fuels in its primary energy consumption to 25% by 2030, higher than the previous pledge of 20%. However, concerns remain as to whether these promises are too little, too late for the world's largest emitter to bend the carbon curve in time to meet China's Paris climate goals.

1.4 Since Xi came to power, due to the urgency of the global climate crisis and China's domestic pollution situation, Chinese policymakers have considered aggressive mitigation commitments and sought cooperation with the United States. Since China's emissions keep rising, China is still not ready to take up global climate leadership. Yet top leaders view China's high-profile pledges as an effective tool to demonstrate that China is a "responsible big power" (*fu ze ren da guo*) that can one day assume global leadership.¹ Xi called for China to 'lead the reform of the global governance system' and transform institutions and norms to reflect Beijing's values and priorities, including in climate policies.²

1.5 China's acceptance of international environmental norms and support of the Paris agreement have enhanced its soft power. The climate change issue has provided a strong opportunity for China to boost its global prestige, align with many developing countries and enhance relations with developed countries.³

1.6 The crux of the energy and climate policy dilemma is an emerging conflict between separate established policy subsystems and new demands for policies requiring considerable interest integration. China's renewable energy policy is central to its

¹ Lu Wangshu, "Actively respond to climate change as a responsible large country" (in Chinese) available at https://www.cenews.com.cn/opinion/hjsp/202009/t20200928_959537.html, archived at https://web.archive.org/web/20210703124031/https://www.cenews.com.cn/opinion/hjsp/202009/t20200928_959537.html, last accessed 3 March 2022.

² "China's Approach to Global Governance", available at <https://www.cfr.org/china-global-governance/>, last accessed 5 April 2022.

³ Zhang Zhihong, "The forces behind China's climate change policy", in *Global Warming and East Asia: The domestic and international politics of climate change*, edited by Paul G Harris (London: Routledge, 2003), p. 78.

energy planning, which itself is considered a pillar of China's overall economic development strategy.

- 1.7 Given this outlook, renewable energy policymaking has often been led by the National Development and Reform Commission (NDRC), the country's economic planning agency. Development-centric ideology had encouraged the NDRC to control many climate-related policies until March 2018, when its bureaucratic rival, the Ministry of Environmental Protection, was restructured into the Ministry of Ecology and Environment (MEE). MEE then took power from the NDRC on issues such as climate change and greenhouse gas emissions. Despite the 2018 reshuffle in favour of the environment-focused ministry, renewable energy development is still scrutinised by the central government mostly as an energy issue rather than as a mitigation tool from the climate change perspective.
- 1.8 While MEE has taken charge of formulating and implementing policies, plans and standards related to carbon emissions cuts and pollution activities of energy enterprises, it still lacks the authority over renewable energy development, which has been entrenched in the energy administration's policymaking. In many cases, even energy planners do not have sufficient authority, resources and tools to prevail over other state energy oligarchies.
- 1.9 The surge in China's energy supply and demand stems from the massive industrialisation process. While industrialisation integrated China into the global system, it also led to a great increase in the number and types of pressure groups involved in the energy/climate realm. This includes more ministries at the national level, big businesses, media, local governments and non-governmental organisations (NGOs), among other entities and individuals. All provinces have their own regulatory departments to deal with energy issues and many large state-owned enterprises (SOEs) have substantial stakes in energy businesses. In the last few years, the influence of the media and think tanks over energy policies has been increasing, while municipal and county-level governments have increasingly pressured for favourable energy-related policies.

- 1.10 Nevertheless, in China’s state-centric society, the influence of environmental NGOs remains very weak and the role of the media is still limited as the media are subject to strict government regulations. In industrialised nations, the voice of these social and civil society organisations plays a vital role in identifying the key design and implementation features that maximise synergies between environmental protection and economic development. However, these groups generally find little influence in China’s energy policymaking context.

Climate Investment Necessary for China’s Transition to Green Growth

- 2.1 Climate investment is necessary for China’s transition to green growth and sustainable development, and a market-oriented approach can greatly help to address the substantial gap between the supply and demand of financing climate-related projects. Investment aimed at climate mitigation and adaptation can generate important dividends, including energy security, economic efficiency, and social and environmental benefits.
- 2.2 Climate funds, an important part of environmental investing that focuses on climate-related issues, witnessed substantial growth in both China and the United States in recent years. The market for Chinese climate funds reportedly expanded 149% from 2020 to 2021, reaching US\$46.7 billion in 2021. By comparison, the United States reportedly experienced 45% growth in climate funds from 2020 to 2021, with a market size of US\$31 billion in 2021.⁴ According to Morningstar, clean energy and technology funds comprised most of China’s climate funds market, at over 60% of fund inflows. “Low carbon” and “climate conscious” strategy investments were less popular for funds.
- 2.3 In the effort to achieve “dual carbon” goals of peaking emissions before 2030 and becoming carbon neutral by 2060, most of China’s climate investments are now directed towards mitigation rather than adaptation. As climate change has greatly aggravated the frequency and intensity of natural disasters which now affect countless Chinese people and inflict massive economic damages, China would need

⁴ “Earth Day: China tops US as world’s second-largest climate funds market as sustainable investing gains traction, Morningstar says”, *South China Morning Post*, 22 April 2022.

to accelerate its climate investments to try to ensure greater resilience and fewer climate-related damages.

- 2.4 Worthwhile investments to adapt to climate change may include investments in food and water supply management and disaster risk management. A World Resources Institute report estimated that China’s funding gap for climate-resilient infrastructure is nearly RMB500 billion (US\$77 billion) a year for 2022-2026.⁵ In this light, the WRI report argues, China needs new financial instruments to rally private sector resources in support of climate-resilient infrastructure, — which is otherwise mostly financed through government.

Political Drivers for Climate Investment in the United States

- 3.1 Compared to many other countries, the United States’ political stances around climate change have appeared inconsistent, tepid, or mired in controversy. Between 2008 and 2015, Gallup polls estimated that a plurality of Americans viewed the seriousness of global warming as “generally exaggerated”, though this proportion has declined in subsequent polls.⁶ In 2010, a plurality (29%) of Gallup respondents in the United States said that they were “not at all” worried about climate change, a number which has declined since then. Paralleling changes in polling, steady trends of growing pressure and desire for action to mitigate climate change can be seen at both elite and popular levels in US politics.
- 3.2 At the federal level, the United States has enacted a growing number of fiscal and regulatory measures to mitigate climate change, mainly under Democratic presidential administrations with some Republican Congressional support. In the March 2021 pandemic stimulus package, the Biden administration achieved allocations of US\$50 billion to improve air pollution monitoring and US\$30.5 billion to support mass transit systems.

⁵ World Resources Institute, *Accelerating Climate-resilient Infrastructure Investment in China*, 2021, Executive Summary, p. 1.

⁶ “In Depth Topics: Environment”, available at <https://news.gallup.com/poll/1615/environment.aspx>, last accessed 9 May 2022.

- 3.3 Though significantly less ambitious than what the Biden administration had intended, the November 2021 “Bipartisan Infrastructure Deal” nevertheless allocated US\$65 billion for clean energy investments and US\$7.5 billion to install charging stations for electric vehicles, and included provisions for electrification and energy-efficient technologies in other infrastructure improvements. In 2009, the Obama administration had raised vehicle fuel efficiency standards, directing auto manufacturers to produce cars that on average attain 42 miles-per-gallon by 2016. In December 2021, the Biden administration announced new targets for fuel efficiency, aiming for a 55 miles-per-gallon standard by 2026.
- 3.4 However, US climate proposals have grown increasingly bipartisan. In 2019, a bipartisan group of economists – including two Treasury secretaries, three Federal Reserve chairmen and every chairman of the White House Council of Economic Advisers since the 1970s – signed an op-ed calling for a slowly increasing carbon tax.⁷ N Gregory Mankiw, a Harvard economist and chairman of the Council of Economic Advisers in the Bush administration, has advocated for carbon taxes for over a decade.⁸
- 3.5 The Trump administration garnered headlines for discarding environmental regulations. Nevertheless, in December 2020, the Trump administration and a bipartisan majority in Congress approved a Consolidated Appropriations Act that extended tax credits for renewable energy, committed US\$35 billion to research in emissions-reducing technologies and created new standards to ensure an 85% reduction in hydrofluorocarbon production by 2036.
- 3.6 Meanwhile, growing numbers of Republican legislators speak directly of climate change. Shortly before Biden’s inauguration, a former Republican Congressman from South Carolina proclaimed support for a carbon tax on imported goods, among other climate-related policies.⁹

⁷ “Economists’ Statement on Carbon Dividends”, *Wall Street Journal*, 16 January 2019.

⁸ N Grigory Mankiw, “A carbon tax that America could live with”, *New York Times*, 2 September 2013.

⁹ Bob Inglis, “Joe Biden can work with conservatives on climate change”, *USA Today*, 10 December 2020.

- 3.7 In an October 2021 press conference, Republican Senator John Barrasso, from the coal and gas-producing state of Wyoming, declared: “We want to make sure the American people have affordable energy and we want to make energy as clean as we can, as fast as we can”.¹⁰

Popular Pressures for Climate Policies and Action in the United States

- 4.1 While China has faced some domestic popular pressure for environmental policies, popular political pressure has formed a far greater and more diversified driver of climate policies in the United States, in ways that have been escalating in recent years.
- 4.2 Investment firms increasingly rank businesses on “environmental, social and governance” (ESG) indicators, including climate-related policies. Some human resources and employee-recruitment firms have reported growing pressure on companies to demonstrate activity on climate change, as (in the words of one job recruiter) “not being seen as socially responsible as an employer will create a negative impact on your ability to attract and retain staff”.¹¹
- 4.3 Though there are no good estimates on the extent to which environmentalism is decisive for job decisions, the growing perception that environmentalism impacts hiring seems to add a new pressure on business behaviour.
- 4.4 Meanwhile, climate activist campaigns targeting large businesses and investors have gained momentum and some unprecedented successes. In response to student pressure, the University of California system, Harvard, Columbia, Rutgers, Georgetown and other universities announced they would divest their endowments from fossil fuel industries.¹²

¹⁰ “Senate Republicans News Conference on Energy Prices”, available at <https://www.c-span.org/video/?c4983779/senator-barrasso-republicans-climate-change-man-made>, last accessed 24 May 2022.

¹¹ “Going green: why every recruiter should read this article”, available at <https://recruiters.theguardian.com/blog/why-all-recruiters-should-go-green>, last accessed 24 May 2022.

¹² Emma Whitford, “Divestment gap emerges”, *Inside Higher Ed*, 28 April 2021; Maria Teresa Cometto, “University endowments setting the pace on fossil fuel divestment”, *IPE Magazine*, November 2021; Jordan Wolman, “Harvard cracks on fossil fuels and a dam breaks”, *Politico*, 28 September 2021.

- 4.5 In May 2021, Exxon and Chevron both suffered defeats in shareholder votes surrounding climate policies.¹³ Since then, US shareholder activity demanding climate reports or new climate policies at large publicly traded firms has skyrocketed, gaining the votes of the majority of shareholders at corporate giants such as Berkshire Hathaway, United Airlines and General Electric.¹⁴
- 4.6 Mass political movements have had a series of successes in triggering action by US state and local governments, which have key jurisdiction over utility operations, regional environmental regulations, construction standards and even vehicle fuel efficiencies.
- 4.7 For instance, New York City and San Francisco adopted local policies mandating the installation of solar panels or green roofs on new buildings, and New York introduced mandates for existing buildings to make significant energy efficiency gains.¹⁵ In August 2020, California finalised a set of vehicle fuel efficiency standards that is stricter than the national standards set under the Trump administration.¹⁶ The structure of many autonomous jurisdictions in the United States, each of which has some ability to create policies in competition with or even in opposition to federal or other localities' policies, has enabled a wide experimentation in new climate policies and created opportunities for bold new policies that otherwise might fail at the federal level.

¹³ Christopher Helman, "Shareholders Rebuke Exxon Mobil On Climate", *Forbes*, 27 May 2021; "Chevron investors back proposal for more emissions cuts", Reuters, 27 May 2021.

¹⁴ "Climate Action 100+ Flagged Shareholder Votes", available at <https://www.climateaction100.org/approach/proxy-season/>, last accessed 9 May 2022.

¹⁵ "Buildings Bulletin 2019-010 Technical", available at https://www1.nyc.gov/assets/buildings/bldgs_bulletins/bb_2019-010.pdf, last accessed 24 May 2022; Lisa Fernandez, "San Francisco 1st City in US to Require Solar Panels Be Installed on New Construction", *NBC Bay Area*, 20 April 2016; "Action on Global Warming: NYC's Green New Deal", available at <https://www1.nyc.gov/office-of-the-mayor/news/209-19/action-global-warming-nyc-s-green-new-deal>, last accessed 24 May 2022.

¹⁶ Rebecca Beitsch and Rachel Frazin, "California finalizes fuel efficiency deal with five automakers, undercutting Trump", *The Hill*, 17 August 2020; Christopher Oster, "Fuel Efficiency Standards – California vs. the Feds", *ENO Transportation Weekly*, 1 August 2019.

Conclusion

- 5.1 There is a need for the United States and China to continue climate dialogue and energy cooperation to jointly explore pathways to net zero carbon footprints. The United States and China have pledged to achieve carbon neutrality by 2050 and 2060 respectively, an essential development for the Paris Agreement’s goal of limiting global warming to 1.5 degrees Celsius from pre-industrial levels. To the extent that the two countries will compete, the competition of each country for “global leadership” on climate issues may help foster a virtuous cycle in political drivers for greater climate action.
- 5.2 The two countries have faced challenges to determining which part of government should be responsible for climate action. In China, local authorities are expected to implement climate-friendly policies and investments, but it is not always clear which higher-level agency manages oversight of local-level climate policies and holds local authorities accountable. In recent years at the central government level, economic policymakers (such as at the NDRC) have vied with energy and environmental policymakers (such as at MEE) for leadership over China’s approach to climate investments and climate adaptation. Nonetheless, a strong momentum for climate action from China’s central leadership in stimulating enormous, widespread and rapid shifts towards climate-friendly infrastructure exists, at scales often comparable or greater than those found in wealthy industrialised countries and unprecedented for developing countries.
- 5.3 In the United States, different administrations in the federal government have presented conflicting policy aims on climate change, at times politically and legally opposing the climate policies of state and local governments. Despite this politically turbulent approach to climate policy, the United States has witnessed growth in bipartisan climate efforts at the federal level; popular momentum to propel public and private climate commitments; and a flourishing of policy experimentation in the “laboratories of democracy” at state and local levels of government. As a result, US policies and investments aimed at mitigating climate change continue to advance, with growing policy differences between different regions.

- 5.4 While the United States may learn from China's top-down government-led approach to expanding investments and adopting regulations to mitigate climate change, China may draw lessons from the dispersed spread of renewable energy and the policy innovations fostered by decentralised political traditions and practices in the United States.
- 5.5 In April 2021, two meetings signalled hope for renewed US-China cooperation on climate investments: US Special Presidential Envoy for Climate John Kerry met China Special Envoy for Climate Change Xie Zhenhua in Shanghai and Xi Jinping addressed a virtual climate change summit hosted by US President Joe Biden. The two countries can better maximise their cooperation in mitigating climate change if there is an understanding of their core differences in governance and political drivers of their respective climate actions.

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