

His analysis makes, at least for this reviewer, too many sweeping and unsupported generalizations: marriage is the subjugation of authentic love (which is never defined); the state *shengnu* policy of trying to shame women in their late twenties into marriage is invoked without mentioning whether it has been successful (it has not); well-educated professional women are considered undesirable and thus cannot find a lover due to men's but not women's inflated mate selection criteria. He then writes later that male youth see women as their equal and women are expected to go to college and become successful in the marketplace.

Zhang is adamant that state policies have resulted in the exploitation of its citizens. But he is never clear on who and in what context someone is being exploited, other than to assume it is everyone most of the time. To be fair, Zhang's study is not designed to explore the domain of the ethnographic nuance. It is designed for one reason: to make a sweeping condemnation of what he believes China has become – a horrible, confusing world of broken dreams and savage lives.

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Foundations for a Low-Carbon Energy System in China

HENRY LEE, DANIEL P. SCHRAG, MATTHEW BUNN, MICHAEL R. DAVIDSON,
WEI PENG, PU WANG and ZHIMIN MAO

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Conducting and Financing Low-carbon Transitions in China: A Governmentality Perspective

LE-YIN ZHANG

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Despite the recent distractions of the Covid-19 pandemic and the conflict in Ukraine, climate change remains the most pressing challenge facing humanity, and what happens in China will determine the extent to which this challenge will be met. These two books provide timely insights into China's efforts to reduce its carbon dioxide emissions and the constraints it faces. They were written in the light of the leadership's commitment to peak carbon emissions by 2030 and to strive to achieve carbon neutrality by 2060.

The book by Henry Lee and colleagues is based on a series of seminars hosted by the Harvard Kennedy School. As explained by Daniel Schrag and Henry Lee in their excellent introduction, it focuses on electricity as this is the key to the nation's low-carbon energy transition. The succeeding six chapters address the electricity sector, coal, renewable energy, nuclear power, transport and local air pollution. Wang draws attention to the longstanding features of China's electricity sector that impede the low-carbon transition: the state-dominated ownership and governance structures, and the systems for

[†] The online version of this article has been updated since original publication. A notice detailing the change has been published at <https://doi.org/10.1017/S0305741022000819>.

pricing and dispatch. Together these constrain the growth of low cost and cleaner alternatives to coal-fired power. As Michael Davidson reminds us, coal continues to lie at the heart of China's energy system, for both the generation of electricity and industrial use. Efforts to reduce the role of coal face powerful political, economic and social obstacles. These include the interests of powerful political and economic and political actors, the risk of substantial stranded assets if the large fleet of new power plants is prematurely decommissioned, and the social cost of large-scale unemployment in parts of the country.

Three chapters draw attention to the great strides that China has taken to introduce cleaner forms of energy. Wei Peng, Zhimin Mao and Michael Davidson highlight the massive and ongoing programme to install renewable electricity infrastructure. However, this is only useful if it is dispatched, transmitted and consumed. Despite the continuing construction of long-distance transmission lines, the current governance systems prevent the full use of this clean energy due, in part, to local protectionism. As the level of penetration of renewable energy rises, increasingly sophisticated pricing, dispatch and technological systems will be needed to make full use of this intermittent source of electricity. Much has been made of China's plans for nuclear power. Nevertheless, Matthew Bunn argues, even if the ambitious capacity target for 2050 is met, nuclear power will only supply about ten per cent of the country's electricity demand. Greater contributions will require the development of new, safer and cheaper technologies and greater buy-in from the public. In the transport sector, central and local governments have been introducing a range of incentives for the production and purchase of electric vehicles, mainly small passenger cars. This does little for carbon emissions for as long as coal dominates the supply of electricity. Regardless, Lee argues that China should continue supporting electric vehicles because they will make a significant contribution to decarbonization in the long-term. As elsewhere in the world, key priorities are to install sufficient and convenient charging infrastructure and to establish appropriate pricing systems.

Finally, Mao and Peng remind us that not all efforts to tackle air pollution have the effect of reducing carbon emissions: scrubbers installed on thermal power plants and generating synthetic gas from coal being cases in point. Success will require retiring coal-fired plants and continuing to boost renewable energy capacity.

The overall conclusion of this concise and well-argued book is that China's ability to meet its long-term goal of carbon neutrality depends on the effective operation of its power sector. This in turn requires short-term action to radically overhaul the governance of this highly politicized industry to address the technical and economic challenges that accompany a low-carbon electricity system.

In contrast to Lee et al.'s focused and pragmatic account, Le-Yin Zhang provides a theoretically based analysis that spans the fullness of China's governance of its low-carbon energy transition. The aims of the book are three-fold: to explain China's progress in the low-carbon energy transition since 2010; to show what roles state strategy, policy and programmes have played; and to draw lessons for other countries. The book's distinguishing feature is its application of Michel Foucault's concept of "governmentality."

Zhang starts by reminding us of China's achievements to mitigate climate change over the decade since 2010. The second chapter provides the theoretical foundation for the analysis. She dismisses as inadequate several policy models, political models and governance models, arguing that "they have not adequately explored the overall motivations, strategies and practices of state actors" (p. 23). The author then explains the strengths of the governmentality approach and builds an analytical framework with four dimensions: field of visibility that involves the identification of problems and goals; forms of thought and knowledge; the identity and identification of actors; and the governing techniques and technologies. The succeeding four chapters apply this framework in turn to the political rationalities, the governing techniques and

technologies, the greening of the financial system, and three urban case studies. Each chapter is packed with detailed information skilfully embedded in the governmental-ity frame.

Space does not permit an exhaustive explication of Zhang's analysis. Suffice to say it is truly original and illuminating. She shows how China's government has successfully combined discourse and leadership with an evolving range of policy instruments to bring about the widely recognized achievements in constraining the rise of carbon emissions. Though market instruments are being applied more frequently, it is the command-and control measures that have been key to progress. The central government has successfully recruited many types of actors to engage in this effort – local governments, state-owned energy producing and energy consuming enterprises, appliance manufacturers, and financiers as well as households. However, the role of civil society remains limited. The role of the financial system is described in some detail, which is of great value as few systematic accounts exist in English.

The result is an all-embracing account of a decade of government action to mitigate climate change. Though the overall tone is positive, the author does not shy away from identifying weaknesses and challenges, notably the continuing tensions between the central government and many local governments, as well as numerous setbacks and unintended consequences. Whilst Zhang is optimistic that the low-carbon transition has been secured, she warns that lower rates of economic growth could stall progress. Likewise, new approaches will be needed to achieve the stated goals. The final implication is that China's experience shows that command-and-control instruments backed by strong leadership can effectively drive the low-carbon transition.

These two books address the same topic, but with quite different objectives, approaches and styles. Lee et al. have produced a relatively slim and highly readable volume that can be appreciated by policy analysts in think tanks and corporations, as well as by academics and graduate students seeking a current overview of the low-carbon transition in China. In contrast, Zhang's book is a scholarly monograph to be studied and appreciated by academics and advanced graduate students interested not just in China but in the wider governance of the low-carbon transition. The two volumes complement each other greatly. Read both and you will be well informed.

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AI Development and the "Fuzzy Logic" of Chinese Cyber Security and Data Laws

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China's emphasis on technology as a source of national power is a marked aspect of its emergence as a peer-competitor to the United States and of that competition itself. Semiconductors, big data, mobile Internet, space, financial and bio technologies figure large in this history, as do autonomous weapons systems and smart surveillance. It has been something of a puzzle as to how China's strategic planning, with its emphasis on indigenization and centralized control, managed to achieve such technological innovation. "Closed" systems are conventionally considered the enemy of the "openness" required for true innovation, with its transnational scientific exchange and data flows and the entrepreneurial opportunities of the global market. This