

Book Review on Carbon Peaking and Carbon Neutrality

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Abstract

This article is a Book Review of “Carbon Peaking and Carbon Neutrality in China: Theory and Practice” co-authored by Dingming Xu, Jinliang Li, and Chunguang Sheng. The book analyzes how China might achieve its dual carbon commitments of peaking carbon emissions by 2030 and reaching carbon neutrality by 2060 amidst the escalating climate crisis. It is noted for its interdisciplinary approach, blending academic analysis with practical applications across three parts and nine chapters. The content covers the historical and legal context of the commitment, practical solutions across critical sectors like energy and industry, the importance of carbon sinks and carbon pricing mechanisms, and various case studies from China and abroad. While strong in its theory and macro-strategy, the review suggests it is less detailed on grassroots perspectives and the international carbon market. Overall, the book is considered an authoritative resource for understanding China's contribution to global decarbonization.

Keywords

Carbon Neutrality, Carbon Peaking, China (Dual Carbon Commitments), Decarbonization, Carbon Pricing (or Carbon Market)

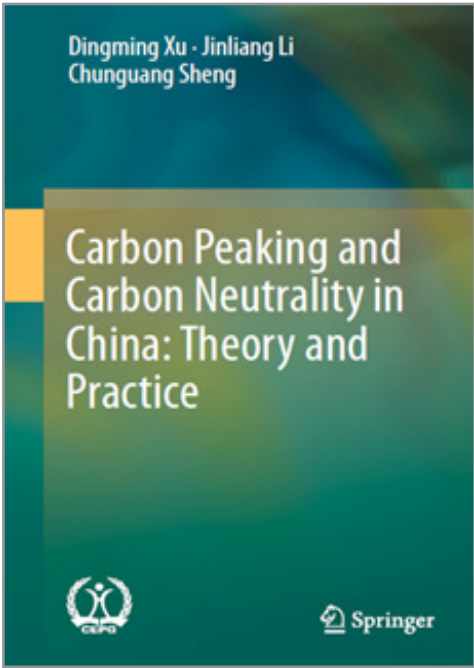
Introduction

The issue of global carbon emissions has garnered significant attention worldwide, leading many nations to establish ambitious reduction targets. Facing this escalating climate crisis, China has undertaken the enormous task of committing to dual carbon goals: peaking carbon emissions by 2030 and achieving carbon neutrality by 2060. The book, *Carbon Peaking*

and *Carbon Neutrality in China: Theory and Practice*, co-authored by Dingming Xu, Jinliang Li, and Chunguang Sheng, comprehensively analyzes the theoretical frameworks, practical strategies, and case studies underpinning China's pathway toward these goals. It is structured into three parts, offering a perfect blend of academic analysis with practical applications, making it a valuable resource for policymakers, scholars, and

practitioners engaged with the complex challenge of decarbonizing China’s large, fast-growing economy.

Title	Carbon Peaking and Carbon Neutrality in China: Theory and Practice
Author(s)	Dingming Xu, Jinliang Li, Chunguang Sheng
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In the past decade, the issue of carbon emissions has drawn the attention of countries all over the world. Many countries have set carbon emission reduction targets. China has taken on an enormous task with the dual carbon commitments of peaking carbon emissions by 2030 while achieving carbon neutrality by 2060 in the face of the escalating climate crisis. This book entitled “Carbon Peak and Carbon Neutrality in China: Theory and Practice”, co-authored by Dingming Xu, Jinliang Li and Chunguang Sheng, analyzes how China might achieve the goal. The book represents a perfect blend of academic analysis with practical applications providing a valuable resource for policy makers, scholars, and practitioners charged with addressing the very complicated challenges of decarbonizing China’s economy. It is anticipated that climate policy analysts, energy policy researchers and environmentalists will find this book especially helpful.

Thematic Content and Structure

The book is well organized, presented in three parts with nine separate chapters, providing a comprehensive discussion of China’s dual carbon commitment. This book elaborately introduces the relevant content of carbon peaking and carbon neutrality from the perspectives of theory, practice and cases.

The first part outlines the context for the dual carbon commitment considering the scientific, political, economic, and cultural perspectives. The authors trace the historical roots (e.g. ancient Chinese beliefs reflected in Laozi’s Dao De Jing, which speaks

of harmony with nature) to the modern concept of ecological civilization. The authors review the scientific basis of climate change (including the reports of the UN Intergovernmental Panel on Climate Change) and the legal framework (the UN Framework Convention on Climate Change and the Paris Agreement). A unique aspect of their analysis is that they divide China’s strategic program into six stages (e.g., from energy shortage before 2006 to achieving carbon neutrality by 2060), which provides a useful framework for implementation [1].

The second part of the book moves to practical solutions and analyzes critical sectors requiring decarbonization. The issues presented are related to energy conservation and carbon reduction with a strong emphasis on supporting energy efficiency, including the potential for energy efficiency improvements in the steel and cement industries. The authors start by improving industrial structures, retiring existing capacity, and creating circular economies that limit waste. In the book, the authors also stress the importance of renewable energy such as wind, solar, hydropower, and biomass. China is introduced as a world leader in renewable capacity. Carbon sinks are also covered with a focus on forestry. The book discusses how sustainable forestry management and ecosystem restoration can help enhance carbon sink sequestration. The authors quantify how far China has advanced in creating forest cover, from 8.6% in 1949 to more than 23% today, identifying new practices such as trading in forestry carbon sinks. The authors introduce two case studies of the

Pearl River Basin Reforestation Project in Guangxi to demonstrate that carbon credits can have environmental and economic impacts that improve community wellbeing. The authors use a 20-page chapter to introduce carbon pricing mechanisms, discussing international systems (e.g. the EU Emissions Trading Scheme (ETS) and China's new national carbon market first implemented in 2021). The authors argue that, in principle, a well-designed carbon market can pull in the private investment needed to stimulate innovation and transition, and yield cost-effective abatement of greenhouse gas emissions. However, they warn about some of the pitfalls that any carbon market could produce (market price volatility, poor monitoring and regulatory compliance, and so on), and emphasize the importance of a strong regulatory regime. The authors underline green finance as an important support mechanism as well as topics such as green loans, green bonds and green funds. The book explains how financial instruments can be leveraged to finance the implementation of low-carbon practices and provides examples, including green bonds for renewable energy financing by the Industrial and Commercial Bank of China. The authors also mention that policy support measures, such as tax incentives and risk guarantee, are needed to scale up green finance and make large investors become "interested".

The last part of the book provides practical examples demonstrating the implementation of a dual carbon strategy. International examples, including the European Green Deal and the UK's legally binding net-zero emissions target, provide examples of what China can learn. Case studies from China are equally illuminating. The book looks at the 2022 Beijing Winter Olympics (the first "carbon neutral" Winter Olympics) as one example, which combined renewable energy with forestry carbon sinks to reduce emissions. The book examines corporate cases of HSBC's carbon-neutral banking and the purchase of carbon credits by China's Everbright Bank to demonstrate the possibility of a connection between corporate profit and business sustainability. The authors discuss community projects, such as farmer-managed forest carbon sinks in Lin'an, which makes it possible for local people to generate income from carbon sequestration. This shows how strategy can facilitate inclusive development, and pushes back against the idea that there is a trade-off between decarbonization and livelihoods [2, 3].

Analysis and Critique

The strongest aspect of the book is its theory and practice. While other books have looked at either policy solutions or technical details, this book manages to combine both, making it appealing to readers with different backgrounds. The interdisciplinary approach, combining economics, environmental science and law, shows how to view decarbonisation as requiring changes in different systems and how to combine policy with operational aspects. The focus on China as a unique situation is another strength. By considering China as a developing country dependent on fossil fuels, the book illustrates context-specific adaptive strategies and region-specific approaches. The strategies include the "1+N" policy model, which has a high-level structure that allows for the development of low-level sectoral plans. The book approaches development in terms of needs and choices, avoiding

the myth of a perfect fit, which is important for understanding decarbonization in large fast-growing emerging economies. The comparative analysis is even more valuable, as it places the Chinese experience in the context of other international approaches (such as the EU's Roadmap approach), revealing synergies and opportunities for cooperation, as well as challenges in acting.

While the book's depth and breadth of detail are impressive, it is not without its limitations. Put simply, it focuses too much on policy and macro-strategy aspects, thereby missing opportunities to consider grassroots perspectives, such as how rural communities or small businesses in China approach decarbonization. Some topics are rather superficial. For example, the book on carbon pricing mentions China's national emissions trading system but does not delve deeply into its relationship to the international carbon market. The case studies provide excellent building blocks, but they would have benefited from a comparative analysis of regional successes and failures to identify which elements could help policymakers. A more detailed look at the broader realities underlying the challenges of international cooperation, such as technology transfer or trade disruptions associated with carbon border adjustments, would also have been helpful [4].

Overall, this book is a relevant and authoritative resource for those studying the climate change. Drawing on comprehensive approaches and tools for decarbonization, such as case studies and practical examples, the book provides a broad overview of the process of "dual carbon" regulation in China. Referencing the experience of organizations such as the National Energy Agency, the authors offer compelling material that is crucial for researchers, policymakers and students seeking to understand China's contribution to global decarbonization, especially at a time when practical results were needed. This book serves not only as a reference guide but also as a call to action, emphasizing that the results of China's efforts and strategies will profoundly affect the fate of the planet.

Conclusion

The reviewed book, *Carbon Peaking and Carbon Neutrality in China: Theory and Practice*, successfully provides a relevant and authoritative resource for those studying climate change, particularly focusing on China's crucial role in global decarbonization efforts. Its interdisciplinary approach effectively merges economics, environmental science, and law to showcase the necessity of systemic change and the combination of policy with operational aspects. The book's strengths lie in its detailed coverage of macro-strategy—including sectoral decarbonization, green finance, and carbon pricing mechanisms—and its use of both Chinese and international case studies to demonstrate implementation. Although the review points out limitations, such as a lack of depth on grassroots perspectives and the international carbon market, the book delivers compelling material that outlines the comprehensive approaches and tools China is utilizing. Ultimately, this work is not just a reference guide but also a call to action, highlighting that the outcomes of China's strategies will profoundly impact the fate of the planet.

Author Contributions

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