

Reconstructing the Climate Rule of Law in a Multipolar Order : Claims and Systemic Challenges of the Global South in Carbon Neutral Standard Setting

Zhuoyang Wu

Hangzhou City University, Hangzhou, Zhejiang, 310015, China

ABSTRACT

The acceleration of a multipolar order is driving global climate governance and the restructuring of international climate law, with carbon neutrality standards emerging as a focal point of contention between the Global North and South. The Global South is transitioning from being a 'rule follower' to a 'rule shaper,' challenging the Western-dominated system. Existing research has primarily focused on Western experiences, neglecting the demands of Southern countries and regional innovations. While theoretical frameworks such as 'climate justice' and 'carbon inequality' are abundant, international law remains limited in addressing power decentralisation and standard coordination. This paper reviews the progress of research on climate law and carbon neutrality standards, identifies theoretical and practical gaps, and calls for increased attention to the agency of the Global South, the integration of regional and global rules, and the institutionalisation of emerging theories, to promote the construction of an inclusive and diverse new climate governance framework.

KEYWORDS

multipolar order; climate rule of law reconfiguration; carbon neutral standard; global South; climate justice

1 Introduction

In recent years, global climate governance has entered an era of multi-polarization, the power structure has been profoundly adjusted, and the international climate law system, which is traditionally dominated by Western countries, is facing an adaptive crisis. Carbon neutral standard-setting has become the focus of a new round of games between the North and the South, and the countries of the global South have not only expressed their own right to development in climate governance, but also actively promoted the innovation of rules and institutional restructuring. Most of the existing studies focus on the "bottom-up" mechanism of the Paris Agreement, the EU carbon border regulation and other hot topics, but there is insufficient systematic investigation on the subjectivity of the global South in rule-making, South-South cooperation and regional legislative practices^[1]. Meanwhile, theories such as "climate justice", "climate debt" and "carbon inequality" continue to be enriched, injecting new perspectives into global governance, but their legal transformation and institutionalization in international law still face many challenges. However, their legal translation and institutionalization in the international law system still face many challenges^[2]. From the perspective of literature review, this paper will systematically sort out and analyze the current status of domestic and international research on the reconstruction of climate rule of law and the formulation of carbon neutrality standard in the context of multi-polarization, discuss the mainstream research methods and their applications, summarize the main limitations and gaps of the current research and put forward the outlook for the future research direction, so as to provide references for the theoretical innovation and institutional improvement of global climate governance.

2 Overview of international climate governance structures and changes in the context of multipolarity

2.1 Definition and relevance of international climate governance

International climate governance refers to the comprehensive system of coordinating and restraining members' behaviors through multilateral agreements, rules of international law and governance mechanisms in the process of addressing climate change and achieving the goal of carbon neutrality among countries and regions around the topics of emission reduction obligations, financial support, technology transfer and standard-setting^[3]. As climate change has become a global public issue, climate governance has transcended the scope of a single environmental management and has become a key platform for countries to strive for the right to development, safeguard their international status and promote sustainable development.

Under the current multipolar international order, the importance of international climate governance has become more prominent: on the one hand, it concerns global ecological security and the common interests of mankind; on the other hand, the climate rule system has become an important battlefield for the reshaping of the global governance

system^[4]. Countries in the global South are increasingly becoming active participants and rule shapers in climate governance, and their claims and degree of participation directly affect the fairness and effectiveness of the international rule of law. The legitimacy, fairness and inclusiveness of climate governance have also gradually become important indicators for evaluating the global governance system.

Table 1 Comparison of key features and influences on climate governance in the era of multipolarity

Characteristics/factors	concrete expression	Examples of impacts
Pluralism of power	Increased participation of the global South (e.g., India, Brazil, AU)	India's conditional commitments, AU legislation
Soft lawization of governance mechanisms	NDC mechanism, "bottom-up" commitment oriented	Paris Agreement targets are flexible
Fragmentation and regionalization of rules	Increased number of regional agreements and difficulty in harmonizing standards globally	EU CBAM and India Policy Conflict
The right to development and claims of equity	Differences between North and South countries intensify over carbon budgets, finance, technology allocation	Climate finance claims of India and others
Imbalance between technology transfer and capacity-building	Limited technology and resources in the South and dependence on international support	Technical patent barriers

2.2 Characteristics of Climate Governance in the Age of Multipolarity and Key Influences

Climate governance in the era of multipolarity presents obvious diversification and complexity. The power pattern of global climate governance has gradually shifted from European and American domination to multi-polar decentralization, and the influence of emerging economies and regional groups such as BRICS, AU and ASEAN has continued to rise in negotiations and rule-making^[5]. At the same time, governance mechanisms are becoming increasingly soft-law, with the Paris Agreement advocating "nationally owned contributions" and "bottom-up" commitments, which, while increasing flexibility, also leads to less binding implementation of goals. With the emergence of various practices, such as regional legislation and South-South cooperation, the development and harmonization of globally harmonized standards are facing new challenges.

The main factors affecting multipolar climate governance include differences in the right to development and historical responsibility between countries of the North and South, differences in economic structure and carbon emissions, the game between the principle of "common but differentiated responsibilities" (CBDR) in international law and the mechanism for allocating carbon budgets, as well as imbalances in the distribution of resources, such as technology transfer and financial support. In addition, cooperation and competition among regional alliances and international organizations have further increased the complexity of the global climate governance landscape.

2.3 Interaction between international climate governance structures and the claims of the global South

The relationship between the international climate governance structure and the demands of the global South is characterized by a highly interactive and dynamic game. On the one hand, countries of the global South actively strive for the right to speak in the formulation of carbon neutral standards through multilateral agreements and regional mechanisms, and promote the concepts of "right to development", "climate justice" and "carbon inequality" into the framework of international law. The concepts of "right to development", "climate justice" and "carbon inequality" have been promoted into the framework of international law^[6]. For example, India's "conditional commitment" strategy, the Malabo Agreement of the African Union, and the China-ASEAN Mutual Recognition of Low-Carbon Standards are all examples of Southern countries advocating for their own rights and interests through institutional innovation.

On the other hand, changes in the structure of international climate governance have a direct impact on the policy space and the realization of the interests of the countries of the South. While the soft-lawization of governance mechanisms and the rise of regional rules have, to a certain extent, provided opportunities for Southern countries to strive for more flexibility and fairness, they have also brought about difficulties in the coordination of global rules, leading to the fragmentation of implementation standards and the complexity of dispute resolution mechanisms^[7]. In the future, to achieve effective cooperation and win-win situation under the multipolar governance structure, it is necessary to better coordinate the demands of the global South with the global unified standards, and to promote a new paradigm of inclusive and differentiated climate governance.

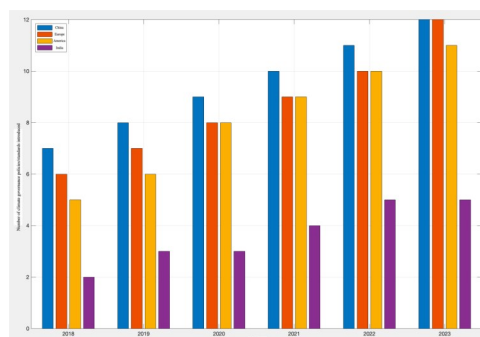
Table 2 Examples of the interaction between international climate governance structures and the claims of the global South

serial number	case (law)	participating entity	Interactive content	Achievements or challenges
1	India's "conditional commitment" strategy	India and developed countries Member	Linking emission reduction targets to financial and technological support, emphasizing the prioritization of the right to development	Challenging the traditional allocation of obligations under international law and advancing the topic of financing
2	AU Malabo Agreement	States of the African Union	Regional legislation reshapes carbon standard rules, emphasizing regional ownership and climate equity	Promoting regional rule of law innovation, but friction with global standards
3	EU CBAM and the Southern States Controversy	EU, India, Brazil, etc.	Carbon Border Adjustment Mechanism sparks protests in the South over trade barriers and carbon equity	Exacerbating trade frictions and the rules harmonization dilemma
4	China-ASEAN Low Carbon Standard Mutual Recognition	China, ASEAN member countries	South-South cooperation to establish mutual recognition mechanisms and promote inclusiveness of standards	Sample of regional cooperation, but global mutual recognition still needs work

3 Literature review

Studies at home and abroad on the reconstruction of the climate rule of law and the development of a carbon-neutral standard in a multipolar order have become increasingly abundant. Scholars generally agree that the development of international climate law is closely related to the global governance structure, changes in power patterns, and the interests of countries in the North and South. In terms of domestic research, scholars mostly focus on China's changing role in global climate governance, especially its participation and innovation in carbon peaking, carbon neutrality targets and international rulemaking^[8]. It is widely recognized that China has enhanced its voice in global climate governance by promoting the "dual-carbon" target, improving the carbon market system and participating in the formulation of the global carbon neutrality standard^[9]. At the same time, scholars have pointed out that the existing international climate law system is characterized by soft law, flexible implementation and fragmentation of regional rules, etc. How to achieve a balance between the right to development, fairness and the goal of sustainable development is the focus of attention of Chinese academics^[10].

In international research, scholars from developed countries are mainly concerned with the improvement of the global climate governance mechanism, the uniform formulation of the carbon neutrality standard, and the evolution of the theory of climate justice. The mainstream literature in Europe and the United States focuses on the Paris Agreement and related multilateral agreements, and emphasizes the role of the "bottom-up" Nationally Determined Contributions (NDC) mechanism in promoting global climate action. However, some scholars have criticized the current international climate law system for ignoring the development demands of Southern countries, pointing out that the rights and interests of the global South are not effectively safeguarded in issues such as carbon budget allocation, technology transfer, and climate finance^[11]. In recent years, the policy innovation and regional cooperation practices of large developing countries such as India and Brazil have gradually attracted the attention of international academics, and relevant studies have focused on South-South cooperation, regional legislation and the real impact of the fragmentation of international climate law^[12]. On the whole, international research has paid more attention to the transformation path of developing countries' demands in the international law system and its impact on the pattern of global climate governance.

**Figure 1** Comparison of the number of climate governance policies and standards introduced in major countries, 2018-2023

4 Methodology and limitations

4.1 Research methodology and analytical framework

This study adopts a diversified methodology, combining quantitative analysis and qualitative research, in order to systematically sort out and assess the dynamic mechanism of climate rule of law change and carbon neutrality standard-setting under the multipolar order. Quantitative methods mainly include carbon emission data statistics, structural equation modeling and indicator system construction to quantify the impacts of different policy paths on the equity and compliance effectiveness of North and South countries^[13]. Regression analysis, panel data and other means are used to reveal the trends and variable relationships between carbon neutral commitments of economies, policy changes and climate governance effects.

The qualitative research method covers literature review, policy text analysis, typical case comparison and expert interviews, summarizing the paradigm shift in climate governance, the rule gaming process and the jurisprudential transformation of the claims of countries in the global South by combing domestic and international mainstream literature and actual cases^[14]. The case study method helps to analyze the experiences and challenges of countries and regional organizations, such as India, Brazil, and AU, in carbon neutral standard-setting and policy innovation, while the expert interviews supplement the empirical materials of conflict of interest and motivation for cooperation. The combination of multiple methods enhances the systematic and scientific nature of the study.

4.2 Data Analysis Methods and Advantages and Disadvantages

The selection of data analysis methods in the study of climate rule of law directly affects the scientificity and operability of the conclusions. Regression analysis, as a basic means of quantitative research, can identify the correlation between key factors affecting international climate negotiations and standard-setting, such as carbon emission intensity, economic development level, technology transfer and other variables^[15]. However, climate governance-related variables often present a high degree of nonlinearity and structural heterogeneity, which challenges traditional regression models.

Panel data analysis is able to handle dynamic data on carbon emissions and policy changes across multiple countries and multiple time periods, revealing the interaction between national claims and rule changes in the global South and effectively controlling for individual and temporal effects. However, the method relies on a large amount of high-quality data and has high requirements for the scientific quality of model setting.

Qualitative case analysis and textual analysis can help to supplement quantitative deficiencies and provide theoretical explanations and in-depth background for institutional innovation and policy assessment, but they are difficult to quantify the results and are highly influenced by subjective judgments. Therefore, in climate rule of law reconstruction research, multiple methods are often combined to form an integrated quantitative-qualitative complementary analytical framework to enhance the comprehensiveness and scientific nature of the research.

Table 3 Comparison of advantages and disadvantages of different analysis methods

serial number	Methods of analysis	vantage	drawbacks
1	regression analysis	Helping to identify key factors influencing climate rule of law and standard-setting	Model accuracy may decrease when there are complex nonlinear relationships between variables
2		Suitable for analyzing linear relationships between key variables	
3	Panel data analysis	Ability to process multi-country, multi-temporal data to reveal dynamic relationships	Requires large amounts of data and high level of rationality of modeling assumptions
4		Fixed effects such as time and country can be controlled for to improve reliability of results	
5	Case studies and text analysis	Provide in-depth contextual explanations that contribute to complementary theories of policy and institutional innovation	Lack of quantitative support and high subjectivity

4.3 Limitations of existing studies

Although the complementary nature of quantitative and qualitative approaches enhances a multidimensional grasp of the evolution of the global climate rule of law, each also has certain limitations. Quantitative research can help reveal the relationships and trends among variables, but it is difficult to fully explain the complex games and historical and cultural logics behind climate governance, and relies heavily on high-quality data and modeling assumptions^[16]. Qualitative research can deeply explore the process of policy innovation and institutional gaming, but the results are more subjective and lack extensive quantitative support. Therefore, integrating multi-methods and combining country-specific and regional practices is a key path to advance theoretical and empirical innovation in this field.

4.4 Research Gaps and Suggestions for Future Improvement

The current research on the reconstruction of the climate rule of law in the context of multipolarity still suffers from both theoretical and empirical deficiencies. First, most of the existing research is based on the perspective of Europe and the United States, and insufficient attention has been paid to the innovative practices and real demands of the countries of the global South, especially the emerging economies and the least developed countries (LDCs). Second, the theoretical and empirical analysis of such important areas as regional rule innovation, South-South cooperation mechanism, and the interaction of different subjects of interest is still weak. Thirdly, most of the methodological approaches are quantitative or qualitative, and there is a lack of a paradigm for the integration of multiple approaches and interdisciplinary and comprehensive analyses.

Future research recommendations should focus on the following areas: (1) Conduct systematic research on the participation, influence, and innovative mechanisms of Global South countries in the formulation of carbon neutrality standards, and promote the institutionalisation of core demands such as the 'right to development' in international law; (2) Promote the deep integration of theoretical and empirical methods, combining diverse data and interdisciplinary tools to systematically reveal the driving mechanisms and actual effects of global climate governance; (3) Focus on local policy innovations and specific implementation outcomes, conduct comparative studies across multiple countries and regions to assess the actual obstacles and solutions to coordinating regional rules with global standards; (4) Establish a dynamic, detailed theoretical framework to provide more actionable policy recommendations for addressing new challenges in climate governance.

5 Conclusion

In the context of multipolarity, global climate governance and international climate law are undergoing accelerated restructuring. Southern countries are transitioning from 'rule takers' to 'rule makers,' enhancing their influence in areas such as carbon neutrality, the right to development, and climate justice.

However, the coordination of regional standards with global rules is becoming increasingly challenging, and international law faces issues such as power decentralisation, the soft-lawification of regulations, and the fragmentation of standards. While South-South cooperation has expanded policy space, it has also raised concerns about governance efficiency and fairness.

To address these challenges, it is recommended to institutionalise the demands of the Global South, strengthen the alignment of regional and global rules, and deepen theoretical and empirical research. This will help build an inclusive, diverse, and collaborative climate governance system to support the achievement of global climate and sustainable development goals.

About the Author

Zhuoyang Wu, Hangzhou City University, Hangzhou, Zhejiang, 310015, China, Email: 32211050@stu.hzcu.edu.cn

Reference

- [1] Barry Buzan, Soonji Choi. Global climate governance: China's golden opportunity[J]. *International Outlook*. 2021, 13(6): 1-9+145.
- [2] Wanfa Wang, Hongtao Li, Xiaolong Yu. Status quo, problems and deepening path of communalization of global climate governance subjects[J]. *China Environmental Management*. 2021, 13(3): 79-85.
- [3] Yanwen Li, Huiming Li. The power politics logic of global climate governance and its transcendence[J]. *Shandong Social Science*. 2020, (12): 168-176.
- [4] Weiduo Zhou, Guiyang Zhuang. Global Climate Governance after the U.S. Return to the Paris Agreement: Struggle for Leadership or Toward Global Consensus? [J]. *Pacific Journal*. 2021, 29(9): 17-29.

- [5] Yi-heng Li,Zhenqiang Wang,Peiwu Zhu. Research on the current situation of carbon neutral standardization and countermeasure proposal in China[J]. Branding and Standardization.2023,(5):21-24.
- [6] Zhiyu Zhang. Carbon-Neutral Change of China's Administrative License System[J]. Yinshan Journal.2022,35(5):98-105.
- [7] Huiming Li. Global climate governance and the transformation of international order[J]. World Economy and Politics.2017,(3):62-84+158.
- [8] Huili,Sun Yongping. A New Framework for Global Climate Justice: Organic Unification of Carbon Rights, Carbon Responsibilities and Carbon Compensation[J]. Nanjing Social Science.2025,(4):48-60.
- [9] Chen J. Global climate justice and the right to equal development[J]. Philosophy Research.2017,(1):108-115+129.
- [10] Wang Qi. Analysis of climate change loss and damage relief path under the perspective of climate justice[J]. China Population-Resources and Environment.2016,26(12):31-38.
- [11] Tongjin Yang,Yiming Zhang.Global Climate Justice in the Perspective of Global Climate Governance:Principles, Controversies and Prospects [J]. Journal of Nanjing University of Technology (Social Science Edition).2024,23(6):9-24+119.
- [12] Makino Hiroyoshi,Yang Zhang. Climate justice and capitalism[J]. Foreign Theoretical Dynamics.2023,(5):88-95.
- [13] Hengwen Peng,Xiaojie Tang. Carbon Budget, Intergenerational Equity and Emission Reduction Path Selection[J]. Modern Finance.2025,(1): 28-35+10.
- [14] Jun Yang,Qian Jia,Jianhui Cong,et al. A study on the carbon offset mechanism in Chinese provinces based on the perspective of "balance between income and expenditure and responsibility and benefit"[J]. Resource Science.2024,46(7):1265-1283.
- [15] Hongyuan Yu. From Great Powers to North-South Divide - The Process of Global Climate Governance from the Sharm El Sheikh Conference [J]. International Relations Studies.2023,(1):24-40+155.
- [16] Shuai Feng. On the Role Transformation of Cities in Global Climate Governance--Analyzing China's Dilemma and Way Out[J]. Journal of Beijing Institute of Technology (Social Science Edition).2020,22(2):151-160.