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**COMPARATIVE STUDY ON LOCAL LEGISLATION ON GREEN FINANCE IN CHINA:
THE CASE STUDY OF SHENZHEN, HUZHOU, AND SHANGHAI
СРАВНИТЕЛЬНОЕ ИССЛЕДОВАНИЕ МЕСТНОГО ЗАКОНОДАТЕЛЬСТВА
В ОБЛАСТИ ЗЕЛЁНОГО ФИНАНСИРОВАНИЯ В КИТАЕ:
НА ПРИМЕРЕ ШЭНЬЧЖЭНЯ, ХУЧЖОУ И ШАНХАЯ**

Аннотация. В соответствии с национальными стратегическими целями максимального сокращения выбросов углекислого газа к 2030 году и достижения углеродной нейтральности к 2060 году Китай ускорил развитие своей системы зеленого финансирования. В отсутствие единого национального закона о "зеленых" финансах местные органы власти проводят законодательные эксперименты. В этом исследовании для сравнительного анализа были выбраны три репрезентативных города – Шэньчжэнь, Хучжоу и Шанхай. В этом исследовании, основанном на анализе правовой базы, институциональных структур, механизмов внедрения и результатов управления, оцениваются преимущества и недостатки каждой модели. Исходя из этого, в нем предлагаются политические рекомендации по созданию единой, систематизированной национальной правовой базы для "зеленого" финансирования.

Abstract. In line with the national strategic targets of peaking carbon emissions by 2030 and achieving carbon neutralization by 2060, China has accelerated the development of its green finance system. In the absence of a unified national-level basic law on green finance, local governments have led legislative experimentation. This study selects three representative cities such as Shenzhen, Huzhou, and Shanghai for comparative analysis. By reviewing their legislative frameworks, institutional designs, implementation mechanisms, and governance outcomes, this study appraises the advantages and disadvantages of each model. Based on this, it proposes policy recommendations to establish a unified, systematic national legal framework for green finance.

Ключевые слова: Законодательство в области зеленого финансирования, местное законодательство, углеродная нейтральность.

Keywords: Green finance legislation, local legislation, carbon neutrality.

INTRODUCTION

Green finance has gradually become an important institutional tool for promoting sustainable development, ecological conservation, and low-carbon economic transformation. It is increasingly regarded as a mechanism for directing financial resources toward environmentally sustainable activities while supporting climate governance and long-term economic resilience (Sachs et al., 2019; Taghizadeh-Hesary & Yoshino, 2019; Bai et al., 2021). Following the implementation of China's "dual-carbon" strategy, which aims to achieve carbon peaking by 2030 and carbon neutrality by 2060, increasing attention has been directed toward the role of financial systems in supporting environmental and climate objectives. Although China has established a relatively comprehensive green finance policy framework, a unified national legal regime has yet to be developed. Existing governance arrangements mainly rely on policy documents, administrative regulations, and sectoral rules issued by different regulatory authorities. Previous studies indicate that China has made substantial progress in green credit, green bonds, and environmental information disclosure; however, legal fragmentation and regulatory inconsistency remain major institutional constraints (Wang & Zhi, 2016; Ma, 2020; Zhang et al., 2022).



Against this background, local governments have played an active role in legislative innovation. Shenzhen, Huzhou, and Shanghai have each introduced local regulations on green finance based on their respective development priorities and institutional conditions. Shenzhen emphasizes financial innovation and regulatory flexibility, Huzhou focuses on ecological governance and green industrial transformation, while Shanghai highlights international financial integration and alignment with global sustainability standards.

Current research on green finance has primarily focused on policy development, financial instruments, environmental governance, carbon markets, and the economic effects of green finance. Comparatively fewer studies have examined local legislative practices from a legal and institutional perspective, particularly through systematic comparisons of regional legislative models and their implications for national legislation (Liu et al., 2017; Lian et al., 2022). This study therefore undertakes a comparative analysis of green finance legislation in Shenzhen, Huzhou, and Shanghai. It examines the institutional characteristics, operational mechanisms, strengths, and limitations of the three legislative models. Furthermore, it explores how local legislative experiences can contribute to the development of a more coherent and unified national legal framework for green finance. By comparing representative local legislative practices, this study enriches the existing literature on green finance governance and provides practical references for the future improvement of China's green finance legal system.

THEORETICAL BACKGROUND

The theoretical foundation of green finance lies in integrating environmental economics and finance. Environmental economics emphasizes the use of market mechanisms to achieve the optimal allocation of environmental resources and to internalize environmental externalities. This theoretical perspective can be traced to classical welfare economics and has subsequently evolved through ecological modernization theory, which advocates market-based environmental governance and sustainable development strategies (Pigou, 1932; Mol & Sonnenfeld, 2000). Finance focuses on the efficiency of capital allocation and the innovation of financial instruments. Green finance extends traditional financial intermediation by incorporating environmental risks, climate considerations, and sustainability objectives into investment and financing decisions (Weber, 2017; Schoenmaker, 2018). The combination of these two fields makes green finance an important tool linking ecological governance and capital markets.

From a legal perspective, Green finance legislation is not only an instrument of economic regulation but also a mechanism for risk governance. Increasing evidence suggests that climate-related risks may evolve into systemic financial risks, requiring coordinated legal and regulatory responses (Campiglio, 2016; TCFD, 2017). Its core function is to guide capital flows toward green sectors through legal rules, while preventing environmental risks from being transmitted to the financial system. International experience shows that a sound legal framework for green finance usually includes unified standards, information disclosure requirements, and a balanced design of incentives and constraints.

However, China's green finance legal system is still in its early stages. Local legislation has, to some extent, compensated for the insufficient institutional supply at the national level. At the same time, it also shows problems such as inconsistent standards and fragmented rules. It is therefore necessary to clarify the theoretical institutional logic of green finance legislation to support the subsequent comparative analysis.

METHODS

This research adopts a qualitative comparative approach to examine local green finance legislation in China. Shenzhen, Huzhou, and Shanghai were selected as case studies because they represent different pathways in the development of green finance regulation. Shenzhen is characterized by institutional innovation and financial experimentation, Huzhou by ecological governance and green transformation, and Shanghai by international financial integration and regulatory convergence.



The analysis is based primarily on legislative documents, government policies, regulatory guidelines, and official reports issued by the three jurisdictions. The study reviews the objectives, institutional arrangements, regulatory measures, information disclosure requirements, and implementation mechanisms contained in these legal and policy documents.

To facilitate systematic comparison, an analytical framework was established covering five dimensions: legislative orientation, institutional design, regulatory mechanisms, implementation outcomes, and compatibility with international standards. Comparison across these dimensions makes it possible to identify both shared characteristics and distinctive institutional features among the three legislative models.

The study also draws upon representative institutional practices to illustrate the practical operation of local legislation. These include the regulatory sandbox mechanism introduced in Shenzhen, the ecological credit system developed in Huzhou, and the ESG information disclosure framework promoted in Shanghai. Examination of these cases provides additional insight into the relationship between legislative design and policy implementation.

In addition, a normative legal analysis is conducted to evaluate the coherence, effectiveness, and institutional legitimacy of existing legislative arrangements. Particular attention is paid to issues frequently discussed in the development of green finance, including regulatory fragmentation, greenwashing risks, ecological value realization, and interregional coordination. On this basis, the study assesses the implications of local legislative experience for the future development of a national green finance legal framework.

RESULTS

Comparison of the three legislative frameworks indicates the emergence of three distinct models of local green finance legislation in China. Shenzhen represents an innovation-oriented model characterized by financial experimentation and institutional flexibility. Huzhou follows an ecology-oriented approach that integrates green finance with ecological governance and industrial transformation. Shanghai adopts an internationalization-oriented model that emphasizes capital market development and alignment with international sustainability standards (Table 1).

Table 1

Basic information on green finance legislations

| Legislation name | Legislative Body | Adoption and Implementation Time | Key Features |
|---|---|----------------------------------|--|
| Shenzhen Special Economic Zone Green Finance Regulations | Standing Committee of the Shenzhen Municipal People's Congress | 2020/2021 | China's first comprehensive legislation in the field of green finance, utilizing the legislative authority of the Special Economic Zone to conduct pioneering institutional experiments. |
| Huzhou Green Finance Promotion Regulations | Standing Committee of the Huzhou Municipal People's Congress; Standing Committee of the Zhejiang Provincial People's Congress | 2021/2022 | Focuses on support for green credit and explicitly incorporates carbon emission assessment into the regulatory framework. |
| Several Provisions of Shanghai Pudong New Area on Green Finance Development | Standing Committee of the Shanghai Municipal People's Congress | Adopted and implemented in 2022 | Shanghai's first local regulation on green finance, supporting the objective of building an international green finance hub. |



Despite sharing the overall goal of supporting green finance development, the three regions exhibit notable differences in legislative orientation, institutional arrangements, regulatory tools, and implementation practices. Shenzhen places particular emphasis on regulatory innovation and market-based mechanisms. Huzhou focuses on ecological value realization and coordination between environmental governance and financial allocation. Shanghai prioritizes the integration of domestic regulatory frameworks with international standards and the development of green financial markets.

The comparison further demonstrates that the three legislative models perform different functions within China's green finance governance system. Shenzhen provides a platform for institutional experimentation, Huzhou offers practical experience in ecological governance, and Shanghai facilitates interaction between domestic regulation and international standards. Their respective approaches reflect differences in regional development priorities and institutional conditions while collectively contributing to the diversification of local green finance governance.

In 2021, Shenzhen promulgated the Regulations on Green Finance of the Shenzhen Special Economic Zone, which is the first local regulation on green finance in China. Its legislative principles include “government guidance, market leadership, technological support, and rule-of-law guarantee”. In 2022, Huzhou enacted the Regulations on Promoting Green Finance in Huzhou, the first green finance regulation at the prefecture-level. Its legislative orientation emphasizes “ecological priority, coordinated governance, and standard guidance.” In 2023, Shanghai implemented the Provisions on Promoting Green Finance Development in Pudong New Area. This is the first provincial-level authorized legislation specifically named “green finance”. It focuses on “international alignment, institutional integration, and functional capacity,” and highlights coordination between financial opening and climate investment and financing pilots.

There are significant differences in institutional design. Shenzhen emphasizes market-driven mechanisms and technological empowerment. Huzhou focuses on the realization of ecological value and inter-departmental coordination. Shanghai aims to ensure compatibility between domestic systems and international rules. These differences reflect local resource endowments and development positioning. They also demonstrate differentiated functional roles in addressing gaps in national legislation: Shenzhen prioritizes experimentation, Huzhou emphasizes coordination, and Shanghai focuses on international alignment. This functional differentiation is embedded in implementation mechanisms. Shenzhen reduces innovation costs through pilot authorization and fault-tolerance mechanisms. Huzhou promotes data sharing and policy coordination through mechanisms that realize ecological value. Shanghai relies on the legislative flexibility of Pudong New Area to align with international disclosure standards such as TCFD and ISSB. These models form a functional chain of “experimentation–transformation–integration” in the legalization of green finance.

Legislative Characteristics of Shenzhen

As a special economic zone, Shenzhen emphasizes financial innovation and regulatory flexibility. Similar innovation-oriented approaches have been adopted in major international financial centers, where regulatory sandboxes are used to promote sustainable financial innovation while maintaining regulatory oversight (Arner et al., 2017; Zetsche et al., 2017). It encourages innovation in green bonds, green credit, and carbon finance. It established the first Green Finance Development Promotion Center in China and introduced a regulatory sandbox to support pilot projects in carbon finance derivatives. Compared with traditional regulation, the sandbox model adopts a “test first, regulate later” approach, which improves regulatory effectiveness.

The regulation imposes mandatory environmental information disclosure obligations on financial institutions and aims to achieve full coverage of banks, securities firms, and public funds by 2025. It also establishes a green finance risk-monitoring and early-warning platform and introduces third-party environmental risk assessment institutions. Climate stress testing for financial institutions is promoted to enhance systemic risk identification. A talent development program is implemented to strengthen professional capacity. Environmental disclosure mechanisms have been widely recognized as effective tools for reducing information asymmetry and strengthening market discipline in sustainable finance (Krueger et al., 2020; Flammer, 2021).



The advantages of this model lie in its systematic institutional innovation and technological empowerment. It establishes a dynamic mechanism of "trial–feedback–optimization." Regulatory technology is deeply integrated with flexible supervision. Market-based incentives such as interest subsidies, risk compensation funds, and environmental rights pledge financing enhance endogenous motivation. In the carbon finance space, Shenzhen explores quota pledge loans and carbon derivatives. It promotes the transformation of environmental rights into tradable assets. The system forms a full-chain mechanism of "green identification–ecological transformation–value realization."

However, this model also has limitations. The legal hierarchy is relatively low and constrained by local legislative authority. Key systems, such as cross-regional carbon market coordination and mandatory standards for green bonds, lack higher-level legal support. There is overreliance on policy documents, resulting in insufficient binding force. Cross-regional ecological compensation and watershed governance lack legal authorization. Regulatory fragmentation remains a concern. Data-sharing mechanisms among departments are not fully legalized. Overlapping procedures and inconsistent standards exist. Constraints on non-bank financial institutions are insufficient. These structural issues reflect the limitations of local legislation under insufficient vertical authorization and weak horizontal coordination. The root cause lies in the absence of a unified national legal framework.

Legislative Characteristics of Huzhou

Huzhou, as an early pilot zone for green finance reform, emphasizes ecological protection and industrial transformation. Its legislative approach reflects the concept of ecological value realization, which is closely associated with ecosystem service valuation and ecological capital transformation theories (Costanza et al., 1997; Daily, 1997). It clearly defines the scope of green industries. Under the framework of ecological civilization legislation, it establishes a dual evaluation system of "ecological credit and green finance." Environmental credit ratings are directly linked to credit quotas, interest rates, and fiscal subsidies. Existing empirical research suggests that green credit policies can significantly improve environmental performance and stimulate green technological innovation (Liu et al., 2017; Lian et al., 2022).

A municipal green project database has been established with dynamic classification. Environmental data no longer sit idle in separate departments. Through statutory coordination mechanisms, environmental authorities provide real-time compliance data to financial institutions. Environmental requirements are embedded into administrative processes such as environmental impact assessment, land supply, and tax incentives. A green credit incentive mechanism is created through fiscal risk compensation funds and environmental liability insurance. Environmental authorities provide financial institutions with real-time regulatory data through statutory channels.

A risk-sharing mechanism is established through a "departmental coordination–data sharing–mutual recognition" framework. Financial institutions are required to use environmental data throughout the credit process. Joint inspections and mutual recognition mechanisms reduce duplication. Environmental indicators such as carbon intensity and biodiversity impact are incorporated into credit decisions. Environmental authorities may veto high-risk projects.

The strength of the Huzhou model lies in its strong ecological orientation. It forms a governance structure of "legal authorization–standard guidance–data support–coordinated implementation." It promotes the integration of ecological governance and financial allocation. Institutional innovations have produced a replicable "Huzhou model" that supports regional environmental governance.

However, there are limitations. The local financial market is relatively small. Financial institutions lack sufficient capital strength and risk diversification capacity. Innovative products such as carbon finance tools are not fully developed. The model has limited national influence. Legal coordination with central financial laws remains insufficient. Alignment with international standards such as TCFD and ISSB is weak. ESG systems are not fully localized. Cross-border green asset transactions lack legal support. Institutional openness needs to be strengthened.

Legislative Characteristics of Shanghai

Shanghai incorporates green finance into its strategy of building an international financial center. It promotes the development of green bond markets through stock exchanges and interbank markets. It supports cross-border issuance, including panda bonds and Belt and Road green bonds.



Shanghai strengthens carbon finance infrastructure by upgrading carbon trading systems and exploring connections with national markets. It improves mandatory information disclosure requirements and aligns with international standards, such as those of the ISSB. ESG disclosure among listed companies is significantly enhanced. Such institutional arrangements reflect the global trend toward convergence in sustainable finance regulation and disclosure standards (European Commission, 2018; ISSB, 2023). International studies demonstrate that high-quality ESG disclosure contributes to greater investment transparency, lower financing costs, and more sustainable capital allocation (Friede et al., 2015; Eccles & Klimenko, 2019). It also promotes regulatory alignment with international frameworks such as CBAM.

The advantages of this model lie in its high level of international alignment. It integrates domestic systems with global standards. Capital markets play a key role in implementing green finance rules. Institutional infrastructure is well developed. Legal provisions clarify data ownership and cross-border data compliance. Judicial mechanisms for green finance disputes have been established.

However, the model also has shortcomings. It focuses more on financial markets and less on grassroots ecological needs. Support for small and medium-sized enterprises is insufficient. Regulatory coordination remains complex. Data-sharing among departments is incomplete. Regional standards are not unified. Local regulatory capacity is uneven. There is a risk of overlapping regulatory responsibilities and delayed risk identification. Policy implementation at the grassroots level is sometimes formalistic. Structural mismatch may arise between advanced standards and limited implementation capacity.

A comparative analysis (Table 2) shows that Shanghai has advantages in market development and international alignment, but weaker industrial adaptability than Huzhou. Shenzhen demonstrates strong innovation but a relatively weak ecological foundation. Huzhou has strong ecological practices but limited financial capacity. These differences reflect variations in development stages and functional positioning.

Table 2

Comparative Analysis on Legislative Dimensions

| Comparison | Shenzhen | Huzhou | Shanghai |
|--|-------------------|-----------------------|--------------------------------|
| Legislative orientation | Innovation driven | Ecological transition | International financial center |
| Level of market development | Relatively high | Moderate | High |
| Degree of alignment with international standards | Moderate | Relatively low | Relatively high |
| Policy and industry integration | Moderate | Strong | Moderate |
| Maturity of the regulatory system | Developing | Pilot based | Relatively mature |

Shenzhen emphasizes institutional innovation and market flexibility. Huzhou focuses on ecological governance and industrial transformation. Shanghai prioritizes capital market mechanisms and international integration. The key to coordination lies in establishing a cross-regional mechanism combining “Shanghai standards, Huzhou scenarios, and Shenzhen technology.” This would promote mutual recognition of carbon accounts, joint evaluation of green projects, and data sharing.

The comparative findings are consistent with international research indicating that green finance governance often evolves through differentiated institutional pathways that reflect local economic structures, regulatory capacities, and environmental priorities (UNEP, 2016; OECD, 2020).



DISCUSSION

Enactment of a Unified Basic Law on Green Finance

At the national level, a *Green Finance Law* should be promulgated to define the legal concept and scope of application of green finance, clarify the allocation of powers and responsibilities between central and local authorities, and establish the fundamental principles that environmental benefits shall be measurable, verifiable, and traceable. A full-chain institutional framework should be established concurrently, encompassing standard-setting, information disclosure, risk assessment, and incentive and constraint mechanisms, to provide a top-level legal basis for cross-regional coordination. Core legislative principles should be established, including the internalization of environmental risks, transparency of information, and alignment with incentives, to ensure that green finance activities are dynamically aligned with the national "dual carbon" objectives. Comparative international experience indicates that comprehensive legal frameworks improve policy coherence, reduce regulatory uncertainty, and enhance the effectiveness of sustainable finance governance (OECD, 2020; UNEP, 2016).

China's green finance development started relatively late, and the legislative process remains at a preliminary stage, largely confined to pilot programs and policy instruments. Existing regulatory documents are fragmented and of relatively low legal hierarchy. Their content is incomplete and fails to generate regulatory synergy. As a result, green finance lacks a comprehensive, systematic, and effective legal framework, which constrains its practical effectiveness.

To address this issue, existing administrative regulations and policy documents should be systematically consolidated and codified into an integrated legislative framework with a coherent top-level design. This framework should serve as the foundational legal regime for green finance and be elevated to the national legislative level. The State Council should lead the promulgation of the *Green Finance Law*. Such legislation, on the one hand, provides top-level design and institutional support for fundamental principles, basic systems, and operational mechanisms; on the other hand, it offers legal guarantees for the development and implementation of green finance. The enactment of this law would establish a systematic and coherent legal foundation, unify legislative principles and institutional arrangements, and provide authoritative legal support for local green finance legislation.

Integration of Innovation Mechanisms with Ecological Orientation

National legislation should incorporate innovation-driven mechanisms while embedding the logic of ecological value realization. Emerging rights and interests, including green technology patents, carbon sink development rights, and ecological product usufruct rights, should be included within the scope of financial support. Clear boundaries for regulatory forbearance should be defined. For frontier technological projects included in the national green taxonomy, regulatory sandboxes should be established. Under the condition that environmental benefits are verifiable, certain prudential regulatory requirements may be moderately exempted. National legislation should also draw on Huzhou's ecological-industrial linkage model. It should legalize the processes of ecological resource confirmation, value accounting, and financial empowerment, and establish a clear legal pathway for the realization of ecological product value. Statutory procedures should include natural resource property rights registration, dynamic ecological valuation, and pledge financing based on green revenue rights. Local governments should be required to compile regional ecological balance sheets. These should serve as core references for allocating green credit quotas and fiscal transfer payments. Cross-watershed and cross-regional ecological compensation funds should be established by law, institutionalizing the principle of "beneficiaries pay and protectors are compensated", guiding financial resources toward ecological conservation redline areas. Traditional environmental regulation focuses on pollution prevention and remediation, relying primarily on administrative enforcement and punitive measures. In contrast, climate change mitigation is a systemic task requiring comprehensive socioeconomic transformation. It involves multiple dimensions, including technological supply and demand, resource allocation, and economic circulation. Therefore, a multi-stakeholder governance structure should be established, integrating government guidance, market incentives, public participation, and international cooperation. Policy instruments should combine technological leadership with market-based incentives.



As pioneers in green finance reform, Shenzhen, Huzhou, and Shanghai should continue to deepen institutional innovation while enhancing their demonstration effects, thereby contributing reproducible experience to national green finance development. This integrated approach is consistent with international discussions on balancing technological innovation, environmental protection, and sustainable economic transformation under climate governance frameworks (Sachs et al., 2019; Campiglio, 2016).

Strengthening Mandatory Information Disclosure

A unified ESG and environmental information disclosure regime should be established to prevent “greenwashing” and strengthen market discipline. Listed companies, bond issuers, and key emitting entities should be required to disclose, on a quarterly basis, carbon emission data, environmental risk exposures, and detailed information on the use of green funds. Banking and insurance institutions should incorporate ESG indicators into credit approval processes and stress testing frameworks, and should be forced to disclose the results of climate scenario analyses. For non-compliant entities, a system of graded early warning, rectification within a specified time limit, and market access restrictions should be implemented to ensure that disclosures are truthful, timely, comparable, and verifiable. Mandatory climate-related disclosure requirements have become a core component of sustainable finance regulation in major jurisdictions, particularly within the European Union and the United Kingdom. International frameworks such as the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) have significantly influenced the development of mandatory sustainability reporting systems and climate-risk governance mechanisms (Task Force on Climate-related Financial Disclosures [TCFD], 2017; European Commission, 2018). A national ESG data platform should be established to integrate multi-source heterogeneous data from environmental, statistical, and financial regulatory systems. Technologies such as blockchain-based certification and artificial intelligence verification should be applied to ensure data integrity and full traceability. Access standards and liability boundaries for third-party assurance institutions should be clearly defined. Entities issuing false assurance reports should be subject to a “one-strike” prohibition from practice. The quality of ESG disclosure should be incorporated into the evaluation system for high-quality development of listed companies and be directly linked to refinancing eligibility and state-owned capital budget arrangements. This institutional design elevates ESG from a “soft constraint” to a “hard regulatory requirement.” Market participants in green finance should be subject to mandatory climate-related disclosure obligations to prevent opportunistic “greenwashing” and regulatory arbitrage. At present, China still faces significant regulatory gaps in mandatory obligations, supervisory rules, and legal liabilities, which urgently require legislative supplementation.

Improvement of Regulatory Coordination Mechanisms

A coordinated governance mechanism between financial regulatory authorities and ecological and environmental authorities should be institutionalized to reduce regulatory fragmentation. Interdepartmental joint enforcement task forces should be established to conduct quarterly compliance inspections of green finance activities. The legal validity of environmental data in credit approval, risk pricing, and green bond certification should be clarified. Real-time data interfaces between environmental monitoring systems and financial credit systems should be established. Recent studies suggest that integrated supervisory frameworks can effectively reduce regulatory fragmentation and strengthen the management of climate-related financial risks. Enhanced coordination among financial regulators, environmental authorities, and central banks contributes to more consistent regulatory implementation and improves the resilience of financial systems to climate-related shocks (Campiglio, 2016; Network for Greening the Financial System [NGFS], 2019). A “green finance regulatory sandbox” should be introduced to implement experimental supervision characterized by prudence, inclusiveness, and dynamic adjustment. A coordinated enforcement mechanism should be established between ecological damage compensation and recovery of defaulted green credit, ensuring that ecological restoration obligations are not extinguished due to enterprise bankruptcy. An expert advisory mechanism for green finance reform should be established. Such think tanks should focus on regulatory oversight and risk early warning,



conduct research on potential risks, and provide theoretical and policy support for improving regulatory coordination. China should also encourage internationally accredited third-party institutions to certify green products and services, while strengthening the accountability of certification, rating, legal, and auditing institutions. Industry self-regulation and supervisory mechanisms should be enhanced. Local governments should establish green credit risk funds to share a proportion of default losses. A tripartite green insurance model involving government, banks, and green industry projects should be developed. Interest subsidy and guarantee mechanisms for green credit should also be improved to address financing difficulties and high costs in green industries.

Establishment of a Multi-level Legislative System

While establishing a national legal framework, local governments should be permitted to conduct institutional innovation within statutory limits. A coordinated legislative structure of "central rule-making and local implementation" should be gradually formed. Basic legislation, such as a *Data Property Rights Law* and *Regulations on Data Transactions*, should be enacted to clarify data ownership, circulation rules, and security boundaries. Regions such as the Yangtze River Delta and the Guangdong–Hong Kong–Macao Greater Bay Area should be encouraged to pilot legislative reforms to marketize data elements, including cross-border data flow "whitelist" systems and accounting standards for data assets. A national legislative evaluation mechanism should be established. Third-party performance assessments of local legislation should be conducted biennially to ensure compliance with legal boundaries and prevent regulatory overreach. Legislative objectives should be differentiated according to regional positioning. Shenzhen, as an innovation-driven special economic zone, may formulate local rules on green technology finance and on compliance with carbon account data to explore pathways for national regulation. Huzhou, as an ecological pilot region, should focus on the realization of ecological product value and county-level inclusive green finance, transforming mature practices into reproducible institutional arrangements. As an international financial center, Shanghai should prioritize cross-border green finance and alignment with international rules to facilitate China's participation in global green governance. Such a multi-level legislative approach ensures both flexibility and legal unity. It accommodates regional diversity and avoids a "one-size-fits-all" regulatory model that is disconnected from practical conditions. A multi-level governance structure allows national legislation to maintain legal consistency while enabling local governments to conduct institutional experimentation and policy innovation under different development conditions (Organisation for Economic Co-operation and Development [OECD], 2020; Bai et al., 2021).

CONCLUSION

The legislative practices of Shenzhen, Huzhou, and Shanghai provide valuable experience for the development of green finance in China. However, issues such as inconsistent legal hierarchy, insufficient regulatory coordination, and incomplete institutional systems remain. It is necessary to establish a unified national legal framework. A comprehensive *Green Finance Law* should integrate institutional innovation, ecological governance, and international standards. It should define green project classification, establish lifecycle carbon accounting standards, and introduce risk-weight adjustments for high-carbon assets. Incentive mechanisms such as refinancing support and tax benefits for green bonds should be included. Alignment with international frameworks should also be strengthened. Only by strengthening the legal foundation, standardizing systems, and promoting international integration can China enhance its position in global green governance and achieve its carbon neutrality goals

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