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China green finance status and trends 2024-2025

Mengdi Yue and Christoph Nedopil

About this Publication

This brief is produced by the Griffith Asia Institute (GAI) at Griffith University, Brisbane, Australia, in collaboration with the Green Finance & Development Center, founded at Fudan International School of Finance (FISF), Shanghai, PR China.

The brief aims to provide a vehicle for publishing preliminary results on topics related to China's green finance trends to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to Griffith University or FISF, to its affiliated organisations, or members of its Board of Executive Directors.

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Acronyms and abbreviations

BRI	Belt Road Initiative
CASI	Capacity-building Alliance of Sustainable Investment
CBIRC	China Banking and Insurance Regulatory Commission
CCER	China Certified Emission Reductions
CFC	Central Financial Commission
CGT	Common Ground Taxonomy
CPC	Chinese Communist Party
CSR	Corporate Social Responsibility
CSRC	Chinese Securities Regulatory Commission
CSRC	China Securities Regulatory Commission
ETF	Exchange-traded funds
EMDE	Emerging Markets and Developing Economies
EPLI	Environmental pollution liability insurance
ESG	Environmental, social and governance
FSDC	Financial Stability and Development Committee
G20	Group of Twenty
GFANZ	Glasgow Financial Alliance for Net Zero
HKMA	Hong Kong Monetary Authority
ICBC	Industrial and Commercial Bank of China
IFS	Institute of Finance and Sustainability
IPFS	Interplanetary File System
ISSB	International Sustainability Standards Board
KPI	Key Performance Indicators
MEE	Ministry of Ecology and Environment of People's Republic of China
MOF	Ministry of Finance of the People's Republic of China
NBFI	Non-Bank Financial Institutions
NBS	National Bureau of Statistics of China
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NFRA	National Financial Regulation Administration
PBOC	People's Bank of China
PICC	People's Insurance Company of China
P&C	Property & Casualty Insurance
REIT	Real Estate Investment Trusts
RMB	Renminbi
SAMR	State Administration for Market Regulation
SASAC	State Council's Asset Supervision and Administration Commission
SLB	Sustainability-Linked Bonds
SLL	Sustainability-Linked Loans
SMEs	Small and medium-sized enterprises
SOEs	State-owned enterprises
SPT	Sustainable Development Performance Targets
UNEP	United Nations Environmental Program
USD	United States Dollar
WMPs	Green wealth management products

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1. Introduction

In 2024, green finance in China saw significant progress across several areas. Early in the year, the CPC Central Committee and the State Council issued the *Opinions on Comprehensively Promoting the Construction of a Beautiful China*,¹ laying out key strategies for achieving a green, low-carbon economy across all sectors. In particular, it advocates the robust development of green financial systems, including green bond issuance, expansion of the national carbon market, climate finance innovation, and ESG information disclosure. It also supports creating standards and certifications for green products and a "carbon inclusive" mechanism for public participation.

In response to this high-level directive, four ministries (PBOC, MEE, NFRA and CSRC) jointly released *Guiding Opinions on Doing a Good Job in the Five Major Financial Sectors in the Banking and Insurance Sectors*² in May 2024, underscoring the role of green finance in resource allocation, risk management and market pricing in support of building a "Beautiful China".

With continuous support through a favourable policy environment, China's green finance ecosystem evolved through strategic policy interventions, innovative financial products, and enhanced regulatory frameworks in 2024. Notable

developments include the finalisation of the *Green and Low-Carbon Transition Industry Guidance Catalogue*, advancements in green insurance and taxonomy, the establishment of more robust and unified disclosure requirements for corporations, the re-launch of the China Carbon Emission Reduction (CCER) market, and the introduction of national carbon footprint management standards.

The growth of green finance instruments has been mixed in 2024: Green loans maintained strong growth, while green bond issuances continued to decline; transition-related bonds and green insurance grew significantly compared with 2023, but were still small in scale; green funds had a strong rebound from 2023.

Building on the previous reports for 2022-23³ and 2023-24,⁴ this brief analyses China's green finance policies in 2024, identifies key trends and recommends actions to scale green finance further. It is written as a snapshot of key developments and uses specific examples to understand China's green finance trends and directions. It is by no means a complete guide to Chinese green finance and its developments.



2. Progress on China's green finance policies in 2024

The following sections highlight and analyse recent green finance policy developments in China based on the five pillars⁵ for green finance development promulgated by PBoC since 2021:

1. Improve the green finance standard system;
2. Strengthen regulation and disclosure requirements;
3. Enhance the incentive and restraint mechanisms;
4. Enrich the product and market system; and
5. Expand international cooperation and lead the setting of international standards for green finance.

2.1 Standard system

Progress in standard system were observed in the insurance industry, green taxonomy, transition finance and biodiversity finance.

Green Taxonomy

Following a public consultation version revealed in 2023, a coalition of ministries led by NDRC finalised and published the *Green and Low-Carbon Transition Industry Guidance Catalogue (2024 version)*,⁶ which went into effect in February 2024. Compared with the 2019 version, it highlights more of "low-carbon" than "environmental protection" and includes traditional industries that need resources for a green transition.

For example, the 2024 Catalogue includes industries working on carbon capture, utilisation, and storage (CCUS), substitutes for ozone-depleting substances (ODS), and emissions reduction industrial processes. In the section on "clean and low-carbon transition of traditional energies", besides "clean production and utilisation of coal", which were included in previous versions, the 2024 Catalogue also adds the low-carbon transformation of coal power generating units. The Catalogue serves as a reference, but not a binding standard, for governments, companies and financial institutions (e.g., for green loans).

In May 2024, Hong Kong Monetary Authority published its first *Hong Kong Taxonomy for Sustainable Finance*⁷ that covers 12 economic activities across four industries—power generation, transportation, construction, sewage and waste treatment. It is highly aligned with Common Ground Taxonomy (CGT), China's Green Bond Endorsed Project Catalogue, and the EU Sustainable Finance Taxonomy. The interoperability attracts cross-border green finance and strengthens Hong Kong's position to channel international capital into sustainable projects.

Green Insurance

Following the Green Insurance Classification Guidelines published in 2023, in April 2024, the National Financial Regulation Administration (NFRA) issued *Guiding Opinions on Promoting the High-quality Development of Green Insurance*.⁸

For underwriting, the Guiding Opinions lists 9 key areas for green insurance coverage: (climate-related) natural disasters, low-carbon technology innovation, green energy and the green transition of traditional energy, restoration activities that benefit the carbon sink, products that benefit public low-carbon lifestyle (such as EVs, bike-share programs and green products), liability insurance for business with high environmental risks, green manufacturing, green buildings and green transport. For investment, it encourages insurers to invest in green industries.

This document sets goals of establishing a comprehensive green insurance policy support system and service framework by 2027, and making green insurance a vital financial tool by 2030. It is expected that both the scale of green insurance products and internal readiness of insurance companies will be accelerated.

Transition finance

In March, a coalition of seven ministries, led by the People's Bank of China (PBoC), released the *Guiding Opinions on Further Strengthening Financial Support for Green and Low-Carbon Development*.⁹ The document calls for accelerating the development of transition finance standards and defining key elements, including the catalogue of transition activities, disclosure requirements, product frameworks, and incentive mechanisms.

PBoC has completed the compilation of transition finance standards for the first batch of four high-emission sectors including steel, thermal power, construction materials and agriculture and have piloted them in some regions. Compilation work on the second batch of seven sectors including copper, aluminium and textile is in progress.

In addition, local governments and financial institutions actively explored transition finance standards in 2024, such as:

- Huzhou: Following Huzhou city's first transition finance catalogue (2023 Version), two group standards regarding financial support for the textile sector and transition loans from banks were published in 2024;
- Shanghai: Shanghai Transition Catalogue came into effect in January 2024, including six sectors – water transportation, ferrous metal smelting and rolling, petroleum processing, chemical materials and products manufacturing, automobile manufacturing and air transportation;

- Tianjin: Following the publication of *Chemical Industry Key Areas Transition Finance Implementation Guide* in 2023, two transition loans with preferential interest rates were issued for the chemical industry in 2024 – a 3-year transition project loan for a steam condensate waste heat recovery project and a one-year low-carbon transition-linked working capital loan that uses the borrowing company's green electricity procurement volume as an indicator.¹⁰
- Shanxi: A transition finance catalogue for coking and non-ferrous industries was published, focusing on coal and steel.

Biodiversity finance

In January 2024, China's MEE issued the *China Biodiversity Conservation Strategy and Action Plan (2023-2030)*,¹¹ as part of the efforts to implement the Kunming-Montreal Global Biodiversity Framework, and a scientific guide to comprehensively improve the level of biodiversity management in the country. It calls for the inclusion of biodiversity factors in the *Green Bond Endorsed Projects Catalogue*, and encourages financial institutions to consider biodiversity in financing and investment decisions.

Box 1: Key trends in China's green finance standard system

Positive progress:	Challenges:
<ul style="list-style-type: none"> • Updated taxonomy on green and transition industries; • Continued progress in green insurance; • Active sub-national participation in exploring transition finance that caters to local needs 	<ul style="list-style-type: none"> • National transition finance standards for priority sectors are not ready yet; • Combining "green" and "low-carbon transition" industries in the same catalogue might be confusing and increase risk of green-washing

2.2 Disclosure policy

China made further progress in disclosure policies for all companies, especially listed companies and green bond issuers.

Companies

In December 2024, a coalition of nine ministries led by the Ministry of Finance published *Corporate Sustainability Disclosure Guidelines - Basic Guidelines (Trial Version)*.¹² The guidelines apply to all Chinese companies, but implementation is voluntary at this stage. The Ministry of Finance suggests that a phased strategy will be used, starting with key industries, listed companies and large enterprises. Requirements will also be qualitative rather than quantitative at the beginning.

There is a general convergence between the Basic Standard and IFRS S1 in terms of information quality characteristics, disclosure elements and related disclosure requirements. Building on the Basic

Guidelines, China aims to publish a climate-related disclosure standard (benchmarking IFRS S2) and an application guide by 2027 and establish a nationally harmonised system of sustainability disclosure guidelines by 2030.¹³

The Basic Guidelines require four core elements in sustainability information disclosure (Table 1) and adheres to the double materiality principle (impact materiality and financial materiality).

Table 1: Core elements of sustainability information disclosure in Corporate Sustainability Disclosure Guidelines

Core elements	Details
Governance	<ul style="list-style-type: none"> • Governance bodies or persons responsible for overseeing sustainable risks and opportunities; • The role of such governance bodies and persons and how they are supervised
Strategy	<ul style="list-style-type: none"> • Sustainability-related risks and opportunities and their projected impact in short, mid and long term • How these risks and opportunities influence company's strategy and decisions • How these risks and opportunities influence company's financial performance
Risk and opportunity management	<ul style="list-style-type: none"> • Processes and policies to identify, assess, prioritise and monitor sustainable risks; • Processes to identify, assess, prioritise and monitor sustainable opportunities; • How and to what extent these processes are included in company's general risk management practice
Metrics and targets	<ul style="list-style-type: none"> • Metrics required by regulations and guidelines • Metrics used by company to measure and monitor its sustainable risks and opportunities, and to measure performance in managing sustainable risks and opportunities • Progress toward targets set by company and by national laws and regulations

Source: Authors compiled based on *Corporate Sustainability Disclosure Guidelines - Basic Guidelines (Trial Version)*.

For central State-owned Enterprises (SOEs), following the issuance of a work plan and technical guidance in 2023, State-owned Assets Supervision and Administration Commission (SASAC) further urged central SOEs to improve ESG information disclosure to better fulfill their social responsibilities in June, 2024.¹⁴ As of September, according to SASAC, 99.6 per cent of listed companies held by central SOEs have published ESG report, but only 14 per cent have worked on ESG standards compilation.¹⁵

For listed companies, a milestone was *Guidelines for Corporate Sustainability Disclosure for Listed Companies jointly released by China's three major stock exchanges (Shanghai, Shenzhen, and Beijing)*, which came into effect from May 1, 2024. The Guidelines mandate certain listed companies (SSE180, KIC 50, SZSE 100, GEM indexes and companies listed both domestically and abroad) to disclose ESG information, including Scope 1 and 2 emissions (Scope 3 emissions and scenario analysis are encouraged). The Guidelines refer mainly to international standards such as ISSB and GRI despite differences in details. In November, the three stock exchanges further released the consultation version of a handbook for preparing a sustainability report based on the Guidelines.

In April, the Hong Kong Stock Exchange introduced New Climate Requirements that align more closely with IFRS S2 climate-related disclosures, which will be effective from 2025 in phases.¹⁶ LargeCap issuers and Main Board issuers are required to disclose information such as Scope 3 emissions and climate-related scenario analysis in phases.¹⁷

In general, the disclosure requirements of sustainability information in 2024 have become more comprehensive, standardised and internationally aligned.

Green bond issuers

In March 2024, National Association of Financial Market Institutional Investors (NAFMII) issued a document requiring green bond issuers to follow the *Green Bond Duration Information Disclosure Guide*¹⁸ published by China's Green Bond Standards Committee in 2023 and disclose the 2023 annual report on fund utilisation, special audit reports, and the Q1 2024 fund use report by April 30, 2024. Additionally, reports on Q2 and Q3 fund use must be disclosed by August 31 and October 31, 2024, respectively.

Box 2: Key trends in disclosure policy standards

Positive:	Challenges:
<ul style="list-style-type: none"> Published sustainability disclosure guidelines applicable to all companies; Harmonised disclosure requirements in three major stock exchanges; More standardised disclosure guidelines for green bond issuers 	<ul style="list-style-type: none"> Disclosure policy for newer topics like green insurance, biodiversity finance is not yet in place

2.3 Incentive and restraint mechanisms

Incentive and restraint mechanisms for green finance provide policy preferences for entities and financial institutions to stimulate the use of green finance and restrain non-green finance.

At the central level, for policy signals, in January, State Council of China initiated a green fund of 300 billion yuan to support the development of key areas including clean energy, green transport and low-carbon technology.

In addition, the document *Guiding Opinions on Doing a Good Job in the Five Major Financial Sectors in the Banking and Insurance Sectors* published by four ministries (PBOC, MEE, NFRA and CSRC) emphasises "improving the evaluation system of financial institutions on their implementation of green finance policies" and "give incentives and commendations to enterprises that have clearly committed to green and low-carbon transition and yielded good results".

PBoC and NFRA are leading monetary incentive tools, including:

- In 2021, PBoC launched a carbon reduction support tool to support carbon emission reduction projects through cheap lending to financial institutions, which will remain effective until the end of 2027.¹⁹ By the end of the second quarter 2024, carbon-reduction lending statistics of selected banks are shown in Table 2. Nearly all projects supported by this tool are clean energy projects.

Table 2: Carbon-reduction lending statistics of selected banks

	Second quarter of 2024			Since the adoption of the tool		
	Loans issued (billion yuan)	No. of projects supported	Weighted average interest rate (%)	Loans issued (billion yuan)	No. of projects supported	Weighted average interest rate (%)
Bank of China	13.25	189	2.50	157.95	894	2.94
China Development Bank	11.47	165	2.70	134.41	618	3.10
Postal Savings Bank of China	2.11	25	3.31	50.98	484	3.50
Agricultural Development Bank of China	3.35	50	3.38	38.32	228	3.53

Special re-lending for clean coal projects expired at the end of 2023. However, as NDRC and NEA highlighted increasing financial support for the decarbonisation of coal power,²⁰ new transition finance incentives might be in place in the future.

At the local level, progress in green finance incentives includes:

- Huzhou (Zhejiang province): Huzhou's banks innovated specialty financial products like "transition loans" and "carbon efficiency loans" that link to borrowers' transition goals and carbon efficiency performance.²¹ "Transition loans" provide an interest subsidy of 50 basis points for high-emission companies that meet the scheduled progress of transition targets. "Carbon Efficiency Loan" provides differentiated interest rates based on a company's carbon efficiency rating to incentivise companies to improve carbon efficiency through technological upgrades.
- Inner Mongolia: The Bank of China local branch issued a 100-million-yuan ESG-linked loan to China Shengmu Organic Milk Limited. The ESG-linked loan will mainly be used to support investment in desert management, ecological restoration, green production and biodiversity conservation.²²

Box 3: Relevant trends in incentive and restraint mechanism

Positive progress:	Challenges:
<ul style="list-style-type: none"> • Local financial institutions actively explore financial incentive tools 	<ul style="list-style-type: none"> • Lack of stable, long-term monetary tools as short-term tools expire

2.4 Products and market system

Progress in green finance products and market system is observed in green and transition bonds, carbon footprint, and green certificates.

Green and transition bonds

In October 2024, the National Association of Financial Market Institutional Investors (NAFMII) published a *Notice on Further Improving Mechanisms Related to Green and Transition Bonds*.²³ It relaxed disclosure requirements in the registration and issuance stages but asked for a stricter selection process for green projects and improved post-issuance tracking and monitoring. It also encourages the issuance of transition bonds by broadening the scope of eligible issuers and eligible uses of proceeds. To support private companies in green and transition bonds issuance, it proposes to use credit enhancement tools such as Credit risk mitigation certificates (CRMW), credit-linked notes (CLN), guaranteed credit enhancement, and transactional credit enhancement.

Carbon footprint quantification

Following a high-level document²⁴ of accelerating carbon footprint management systems in 2023, an implementation plan and a national standard were published in 2024. In May, 15 ministries led by MEE issued the *Implementation Plan for Establishing a Carbon Footprint Management System*,²⁵ aiming to formulate internationally-aligned carbon footprint accounting standards for 100 priority sectors by 2027 and 200 priority sectors by 2030. Priority sectors include power, coal, natural gas, fuel oil, iron and steel, electrolytic aluminium, cement, fertilizer, hydrogen, lime, glass, ethylene, ammonia, calcium carbide, methanol, lithium batteries, new energy vehicles, photovoltaic and electronic appliances.

In September, a national standard *Greenhouse Gas - Carbon Footprint of Products - Requirements and Guidelines (GB/T 24067-2024)* was issued by State Administration for Market Regulation with guidance from MEE. The Standard draws on international standard ISO 14067²⁶ but adds specific product carbon footprint standards, guidelines on data geographic boundaries, and detailed steps for identifying, declaring, and reviewing product carbon footprints. It serves as a basis for the preparation of product carbon footprint accounting standards of various sectors. Building on GB/T 24067-2024, the Ministry of Industry and Information Technology (MIIT) issued a guideline specifically for carbon footprint accounting of industrial products in November.

Emission Trading (ETS) and China Certified Emission Reduction Credits (CCER)

China's Emission Trading System (ETS) saw rapid development in terms of both policy and market standards in 2024. In January, the State Council promulgated *Interim Regulations on the Administration of Carbon Emission Trading*,²⁷ effective on May 1, 2024. As the first specialised legislation on climate change in China, it includes concrete guidelines for the responsibilities of government agencies, key emitting entities and third-party service providers, as well as legal penalties for behaviours like falsification, failure to pay carbon allowances or obstruction of inspection by supervising government agencies. With the regulation in place, China's national ETS is expected to be more standardised. In 2024, the annual trading value amounted to 18.1 billion yuan (approximately \$2.5 billion), setting a new record for annual transaction value since the market's inception in 2021.²⁸

For the power generation sector, in July, MEE released the public consultation version of *Total Amount and Allocation of Allowances for Power Generation Sector in National ETS for The Years 2023 and 2024*, making adjustments to emissions allowance and accounting rules in previous years. In particular, it links the maximum allowable carry-over of quotas to net sales by companies, therefore boosting market trading activity in the short to medium term.²⁹

The power generation sector is still the only sector included in China's national ETS, but research and evaluation on including other priority sectors has been ongoing. In 2024, MEE announced that cement, steel, electrolytic aluminium would be included in national ETS by 2025,³⁰ and published the consultation versions of guidelines for GHG reporting and verification for the three sectors.

MEE officially re-launched China Carbon Emission Reduction (CCER) market on 22 January 2024 after seven years of hiatus. CCER supplements the national Emissions Trading System (ETS) market, which was launched in July 2021. The initial four sectors supported by CCER include offshore wind power, solar thermal power, afforestation and mangrove vegetation. Methodology for two more sectors, coal mine gas recycling and highway tunnel lighting energy saving, were published for consultation in August 2024.

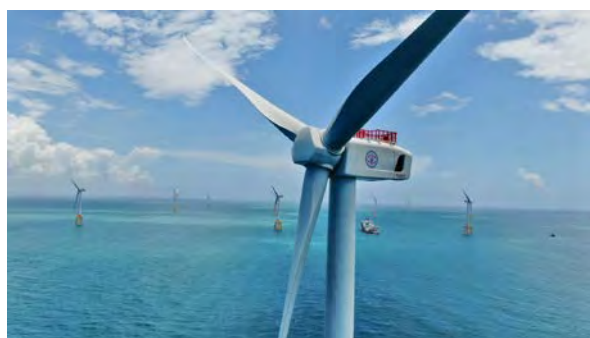
Green electricity certificates (GECs)

A previous policy document³¹ published in 2023 had established green electricity certificates as the sole mechanism in China for verifying renewable power generation and consumption, and assigned National Energy Administration (NEA) as the verifier and issuer of GECs.

In January 2024, China's NDRC, National Bureau of Statistics (NBS), and NEA jointly issued a notice³² to leverage GECs for controlling energy consumption and intensity, as well as promoting non-fossil fuel consumption. This notice also incorporated GECs into the accounting of energy-saving assessment indicators.

On August 26, the NEA published the *Rules for Issuance and Trading of Renewable Energy Green Electricity Certificates*,³³ laying out logistics details about GEC issuance and trading. This document aims to standardise the GEC system and facilitate the green electricity trading market.

China also encourages the integration of GECs with China Certified Emission Reduction (CCER) credits for offshore wind power and solar thermal power projects³⁴ starting October 1st. During a two-year transition period, these projects can choose to receive either GECs or apply for CCER credits. The policies may be adjusted after this transition period based on performance and market conditions.



Offshore wind turbines (Wikimedia Commons).

Box 4: Recent trends in product and market

Positive progress:

- Policies on green bond issuance, information disclosure and supervision are further optimised;
- Carbon footprint quantification work starting and making progress;
- China's first specialised legislation on climate change went into effect;
- CCER relaunched and ETS ready to include more high-emitting industries such as steel;
- Key policies on green electricity certificates in place

Challenges:

- Lack of long-term roadmap for carbon market;
- Share of green products in total market remains small
- ETS remains flawed in its design

2.5 International cooperation and standards

China continued its active contribution to shaping international green finance standards. In November 2024, IPSF Multi-jurisdiction Common Ground Taxonomy (M-CGT) led jointly by PBOC, the European Commission Directorate-General for Financial Stability, Financial Services and Capital Markets Union and the Monetary Authority of Singapore was unveiled during COP29. The taxonomy expands on previous version of China-EU Common Ground Taxonomy, and aims to harmonise sustainable finance criteria in China, the European Union, and Singapore and facilitate cross-border flows of green capital. China's Green Finance Committee is organising work on labelling green bonds aligned with the new Common Ground Taxonomy. By end of November 2024, 352 domestic green bonds have been labelled.³⁵

China is also expanding international cooperation on emissions trading schemes. In August 2024, MEE released an updated MoU with the European Commission on enhancing cooperation on emissions trading. The MoU highlights strengthening dialogue and collaboration on the roles of CCER, ETS expansion, ETS's relationship with green power and green certificates, mutual recognition on carbon accounting and product carbon cost verification as well as carbon market systems, quota allocation approaches, and MRV mechanisms.³⁶

During the 2024 G20 Summit in Rio de Janeiro, Chinese President Xi Jinping appeals to accelerating the implementation of G20 Sustainable Finance Roadmap to better meet the green financing needs of developing countries, and of the Kunming-Montreal Global Biodiversity Framework. He also emphasised the approach of "establishing the new before

abolishing the old" in energy transition, i.e. ensure energy security when replacing traditional energy with clean energy.³⁷

China is expected to submit updated Nationally Determined Contributions (NDCs) in 2025. During the COP29 World Leaders Climate Action Summit in November, Chinese Vice Premier Ding Xuexiang announced that China will submit its 2035 nationally determined contributions that are economy-wide and cover all greenhouse gases and strive to achieve carbon neutrality before 2060. The new NDCs are expected to see major improvement from the 2021 version, particularly the expansion from CO2 to all greenhouse gases. China also announced its global finance contribution during COP29 to be 177 billion renminbi (about USD 24.3 billion).

Chinese financial institutions are incorporating green insurance standards into BRI investments. In November 2024, the Belt and Road Reinsurance Pool held its 10th Council Meeting in Kunming, Yunnan Province. The meeting launched "Green Insurance

Principles" for BRI projects, including identifying and assessing environmental risks in projects and developing differentiated underwriting solutions.

Box 5: Trends in international green finance

Positive progress:	Challenges:
<ul style="list-style-type: none"> • Active involvement in international regulatory green finance institutions (such as IPFS and G20); • Great progress on harmonisation of multi-jurisdiction green finance standards 	<ul style="list-style-type: none"> • Limited engagement of Chinese financial institutions in voluntary international associations and standard setters (such as GFANZ); • Limited involvement in discussions related to biodiversity disclosure standards and addressing deforestation financing issues.



The Belt and Road News Network (BRNN) First Council Meeting (Photo/People's Daily Online).

3. Green finance application through green finance instruments

The next section analyses the development of the following green finance instruments:

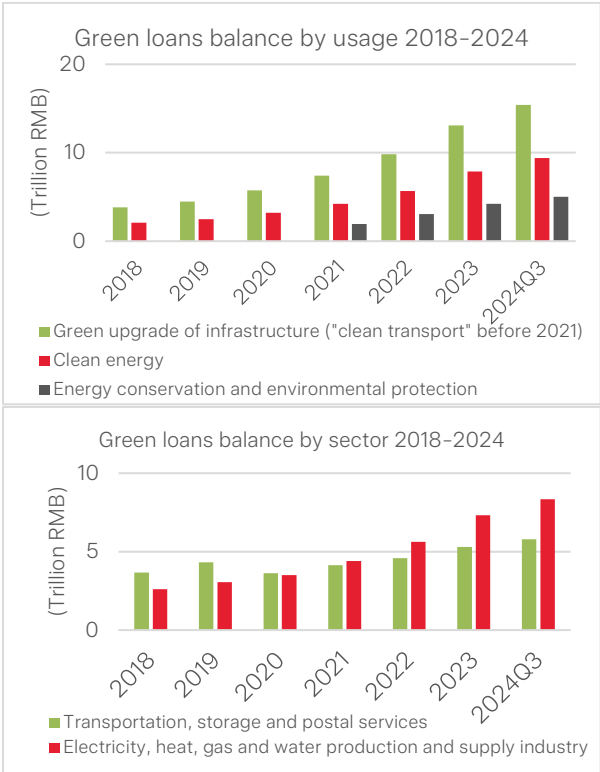
- Green loans
- Green bond
- Transition bonds
- Green insurances
- Green funds

3.1 Green loans maintain strong growth

By the third quarter of 2024, China's outstanding green loans balance in both domestic and foreign currencies reached 35.75 trillion yuan (about 4.9 trillion US dollars), an increase of 19 per cent compared with 2023 Q3. The share of outstanding green loans in total outstanding loans grew slightly to 13.9 per cent (Figure 1).

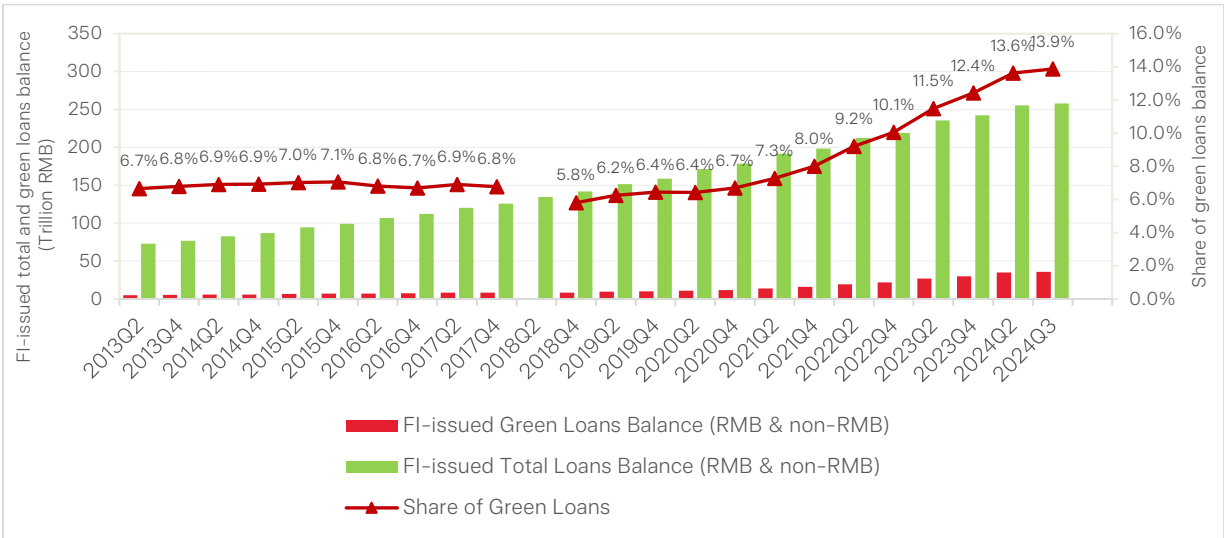
By usage, outstanding green loans mainly support the green upgrade of infrastructure and clean energy. By sector, outstanding loans for borrowers in the electricity, heat, gas and water production and supply industry have been growing steadily since 2018 (Figure 2).

Figure 1: China's green loans balance by use of proceeds and sector in 2024



Source: Authors compiled based on PBoC's public reports; includes only 21 major banks.

Figure 2: China's green loans and total loans balance 2013-2024



Source: Authors compiled based on PBoC's public reports; includes only 21 major banks.

3.2 Continued slow-down in green bonds growth

In 2024, the number of newly-issued green bonds in China was slightly smaller than in 2023, but the size of issuance declined by 18 per cent compared with 2023 (Figure 3). This was mainly contributed by a decline in green bonds issued by financial institutions (a 77 per cent drop in 2024 H1 compared with 2023 H1) as a result of the large number of green bonds issued in previous years still being deployed and absorbed and the more hesitant issuance of large-scale green bonds.

The share of green bonds in the total bond market remains small. The size of newly-issued green bonds in 2024 accounts for 0.85 per cent of China's domestic bond market, 0.32 per cent down from last year.³⁸ In 2024, raised funds are mainly used for clean energy (55 per cent in terms of issuance size) and green transport (29 per cent).³⁹

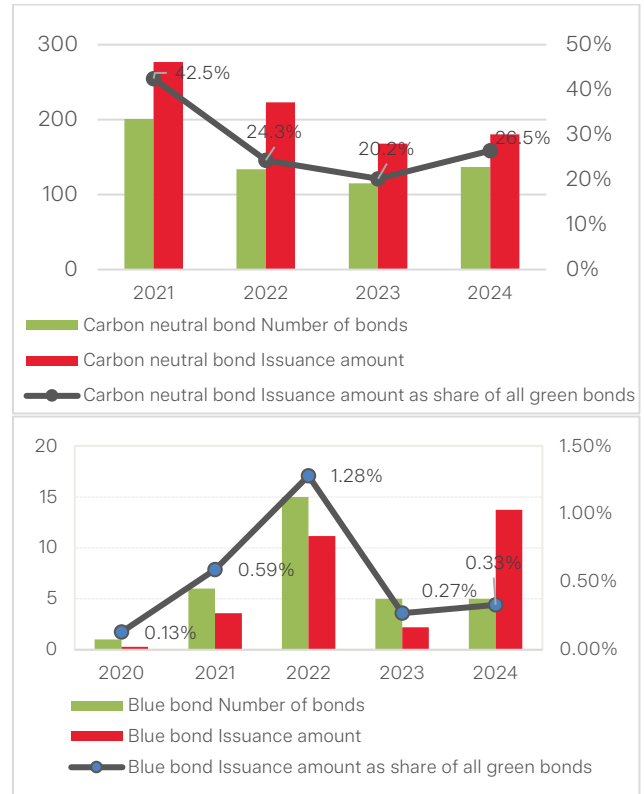
A majority of new green bonds in 2024 were issued by state-owned and state-controlled institutions (in which the government share is 50 per cent or more), but the participation of non-SOEs has been growing steadily, from 1 per cent in 2021 to about 20 per cent in 2024 in terms of issuance size.

Trading volume in the secondary market declined accordingly. In 2024, a total of 1,014 green bonds (a decrease of 12.89 per cent compared to 2023) participated in trading, with an annual spot trading volume of 1.15 trillion yuan (a decrease of 29 per cent compared to 2023).⁴⁰

Specialty green bonds slightly rebounded in 2024. For carbon-neutral bonds, issuance amount was up by 7 per cent year-on-year, and the number of bonds

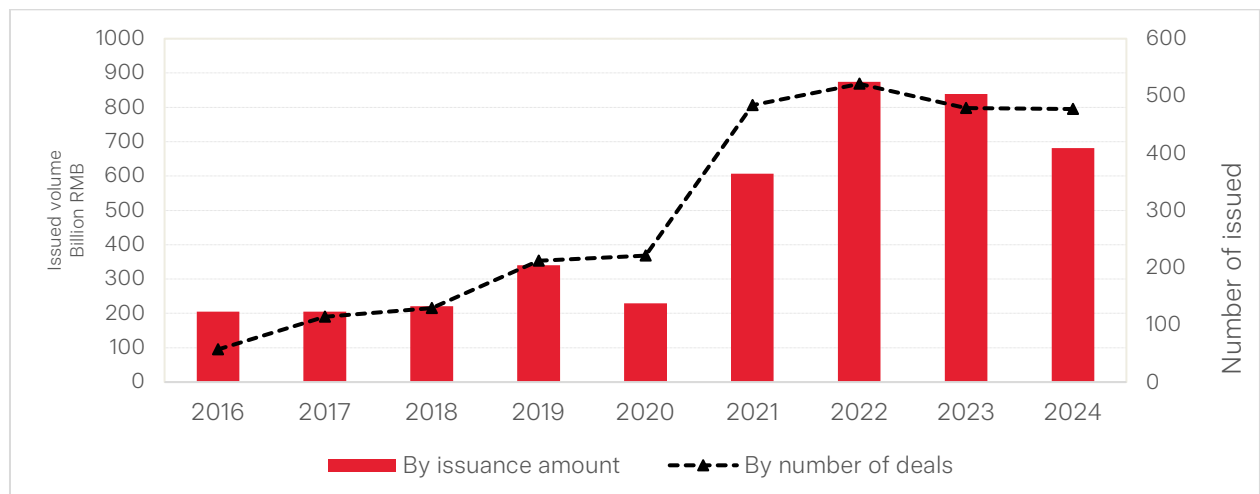
issued rose by 19 per cent; for blue bonds, issuance amount surged by 519 per cent (though still small in scale) and number of bonds issued increased by 22 per cent (Figure 3).⁴¹

Figure 3: Carbon-neutral bonds and blue bonds issuance in China



Source: Authors based on data from Wind and China Chengxin Credit Rating.

Figure 4: Continued decline in China onshore green bond market in 2024



Source: Authors based on data from International Institute of Green Finance and Climate Bonds Initiative.

Box 6: China's green bonds and the China-EU Common Ground Taxonomy (CGT)⁴²

As of September 30 2024, 250 of China's green bonds issued in circulation in the interbank market were in compliance with the China-EU Common Ground Taxonomy (CGT), according to the assessment by expert group of China's Green Finance Committee.

The 250 bonds accounted for 24.8 per cent of all outstanding green bonds in China's interbank market; their total issuance amount was about 372 billion yuan, representing 22.5 per cent of all outstanding green bonds in the interbank market.

The top three activities for the allocation of raised funds are: H1.1 Construction and operation of urban and rural public transportation systems (29.39 per cent), D1.3 Wind power generation (26.39 per cent) and D1.5 Hydro power generation (18.06 per cent).

Panda bonds issuance reached a record high in 2024, reflecting growing interest among foreign entities in issuing renminbi-denominated bonds in China's domestic market. According to Wind data, in 2024, 109 panda bonds were issued, totalling 194.8 billion yuan. This marks a 15.96 per cent increase in the number of bonds issued and a 26.12 per cent increase in total value compared to 2023. Contributing factors include a cost advantage of issuing panda bonds due to the widening interest rate gap between China and the United States, as well as China's 2022 policy shift allowing funds raised from Panda bond to be remitted overseas.⁴³ Among others, the issuance amount of Green, social, sustainability, and sustainability-linked (GSSS) bonds reached 17 billion yuan,⁴⁴ lower than 2023 (21.7 billion yuan).⁴⁵

3.3 Transition-related bonds show great potential

Transition-related bonds in China include four categories:⁴⁶

- In the interbank market: Sustainability-linked bonds and transition bonds
- In the stock exchange market: Low-carbon transition (corporate) bonds and Low-carbon transition-linked (corporate) bonds

In 2024, the issuance of transition-related bonds accelerated, with an annual issuance scale of 64.86 billion yuan, a year-on-year increase of 53.6 per cent (Table 3).⁴⁷

Table 3: China's transition-related bonds issuance in 2024

Bond Type	Number of Bonds	Total Scale (Billion Yuan)	Year-on-Year Growth
Sustainability-linked bonds	47	34.97	+35.1%
Low-carbon transition-linked bonds	23	17.99	+27.8%
Low-carbon transition bonds	3	10.40	-
Transition bonds	2	1.50	-
Total	75	64.86	+53.6%

Source: Author compiled based on data from CIB Research.

Among the 70 Sustainability-linked Bonds and Low-carbon transition-linked bonds, a large majority of issuers are state-owned institutions; 45 bonds included interest rate step-up clauses, ranging from 5 to 30 basis points; 50 bonds set at least 1 KPIs related with energy efficiency improvement, sustainable construction sector, clean energy and others.⁴⁸

3.4 Green insurance products grow in scale and type

Despite the absence of specific green insurance policies until late 2022, the instrument has experienced rapid growth. According to the Insurance Association of China, in 2023, green insurance generated a premium income of 229.8 billion yuan, accounting for 4.5 per cent of the industry's total premiums, with an insurance coverage of 70.9 trillion yuan.⁴⁹ As of the end of August 2024, green insurance provided a cumulative insurance coverage of 469 trillion yuan, an increase of 23.4 per cent year-on-year. Claims payments reached 116.25 billion yuan, up 77.8 per cent compared to the previous year.⁵⁰

In 2024, insurance companies continued to innovate with existing insurance types and actively explore relatively new insurance types:

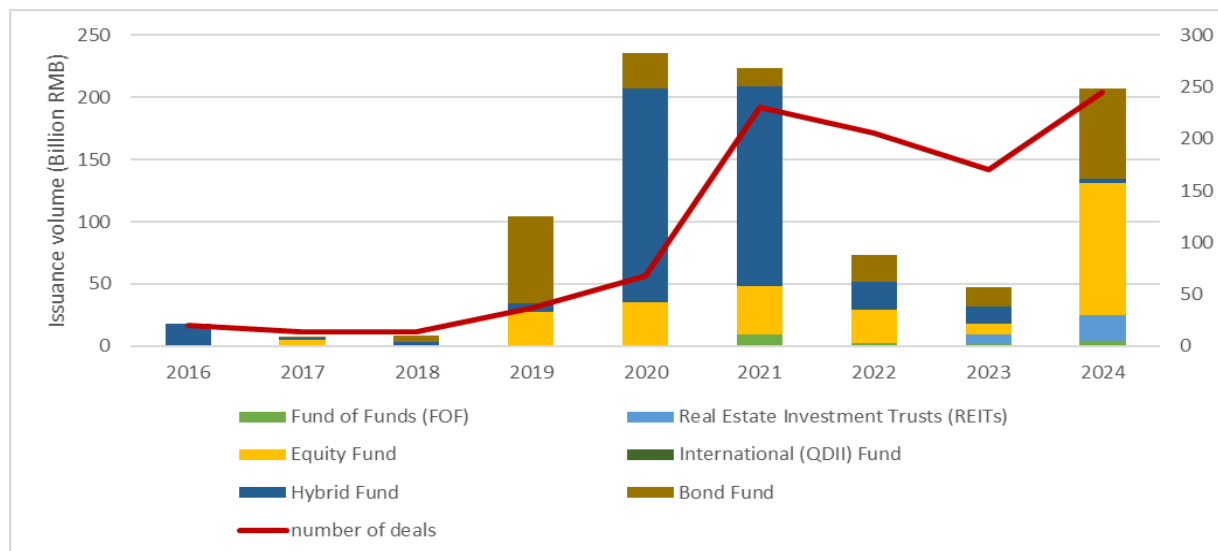
- **Catastrophe insurance:** In February, the first 5-year comprehensive catastrophe insurance covering all disaster types was implemented in Hebei province. Premiums are paid by the government budget, and it provides coverage for personal, housing, and property for all residents in the province.⁵¹
- **Carbon insurance:** In April, China Continent Insurance launched a comprehensive insurance for shellfish carbon sink value and aquaculture costs in Liaoning province, providing 16.9 million yuan in coverage.⁵² In May, People's Insurance Company of China provided insurance coverage for the carbon sinks generated by approximately 2,636 hectares of farmland and forests in the jurisdiction of Qiqiao Subdistrict. If natural disasters or accidents cause damage that reduces the carbon sink amount below a predetermined threshold, Qiqiao Subdistrict becomes eligible for compensation.⁵³
- **Green loans + biodiversity insurance:** In November, Industrial Bank issued a green loan of 8 million yuan (about 1.1 million USD) to a company in Sichuan Province. The loan is primarily intended for Guanyinhu National Wetland Park's greening efforts. The insurance, developed in collaboration with China Life Property Insurance, protects wetland vegetation against risks of environmental damage and species reduction caused by natural disasters.

3.5 Green funds have a strong rebound

The number and size of publicly issued green funds⁵⁴ saw a strong rebound in 2024 (Figure 5). In particular, green bond funds gained increased market attention. A total of 8 green bond funds were launched with an issuance amount of 56 billion yuan, compared with 3 bonds and 10.5 billion yuan in 2023.⁵⁵ Some debuts include:

- **First green bond index themed around biodiversity:** In September, the CSI-CITIC Biodiversity-Focused Credit Bond Index jointly compiled by China Securities Index Company and CITIC was launched in Beijing. It included 1,039 sample bonds with an investable bond scale of 3.3 trillion yuan;
- **First green bond index based on the Common Ground Taxonomy:** In November, the JPMorgan Common Ground Taxonomy Green Bond Fund was established with an issuance scale of 6 billion yuan;
- **First high-grade bond index fund addressing climate change:** In December, the Neuberger Berman CFETS 0-5 Year Climate Change High-Grade Bond Composite Index Fund was established with an issuance scale of 6 billion yuan.

Figure 5: China's green funds issuance in 2024



Source: authors based on Wind data.

4. Trend scouting

Many areas of China's green finance landscape experienced fruitful development in 2024. We identify 10 trends in 2024 and 2025 based on the analysis in previous chapters.

- 1. Green and low-carbon development becomes a mainstream priority for all sectors.** The recent shift of China's focus from the dual control of energy consumption to carbon emissions, and its pursuit of "a beautiful China" is driving positive changes across the economy. Green finance is playing an increasingly prominent role in resource allocation, risk management, and market pricing in support of building "a Beautiful China".
- 2. Enhanced regulation for green and transition bond deters "greenwashing".** New regulation by NAFMII eases disclosure requirements during the registration and issuance stages of green bonds to the administrative burden, but introduces more rigorous standards for the selection of green projects and strengthens post-issuance tracking and monitoring mechanisms.
- 3. Sustainability disclosure policy is enhanced and more aligned with international standards.** The *Corporate Sustainability Disclosure Guidelines* published in December refers to IFRS S1 in terms of information quality characteristics, disclosure elements and related disclosure requirements, setting the foundation for a climate-related disclosure standard (benchmarking IFRS S2) and an application guide by 2027, and a nationally harmonised system of sustainability disclosure guidelines by 2030. In addition, China's three major stock exchanges (Shanghai, Shenzhen, and Beijing) published mandatory guidelines for certain listed companies to disclose ESG information including Scope 1 and 2 emissions (Scope 3 emissions and scenario analysis are encouraged).
- 4. Transition finance has been brought to spotlight.** China's energy transition, as stated in its white paper⁵⁶, should "adhere to the principle of establishing new systems before dismantling old ones". For China, a smooth and secure transition from fossil fuels to renewables aligns more with its interest. With NDRC publishing "Green and Low-Carbon Transition Industry Guidance Catalogue" and with PBoC finished compiling transition finance standards for steel, thermal power, construction materials and agriculture and working on the more sectors, transition finance is expected to play a more crucial role in decarbonising hard-to-abate sectors.
- 5. China's first specialised legislation on climate change was enacted.** The legislation fills a legal gap and allows for the mobilisation of multiple ministries to support carbon trading nationally. It includes provisions to guarantee the quality and accuracy of emissions data, strengthen management of technical service organisations, and increases penalties for carbon emissions data fraud.
- 6. The relaunch of CCER marks a significant step in advancing China's voluntary carbon market.** The relaunch established a unified national market, replacing the disparate regional markets. It also brought significant changes to its structure and operation, including more streamlined registration process and increased transparency and public disclosure of information related to voluntary greenhouse gas emission reduction projects.⁵⁷
- 7. Significant strides were made in developing carbon footprint standards.** With the aim to formulate internationally-aligned carbon footprint accounting standards for 100 priority sectors by 2027 and 200 priority sectors by 2030, and high-level guidelines in place, more product-specific carbon footprints accounting instructions are expected to be issued.
- 8. Green insurance experiences multifaceted expansion.** Following several releases of guidelines on classification, statistics, and disclosure requirements, the market is actively piloting diversified green insurance products, covering biodiversity, environmental protection, natural disasters, green transportation, green manufacturing and carbon sink. The Green Insurance Principles for BRI projects was published to support green governance with partner countries.
- 9. Green bond market saw overall contraction but notable pockets of growth and diversification.** For the second consecutive year since 2022, both the number of new green bonds issued and their total issuance volume decreased. The secondary market also experienced a decline in trading volume, indicating a broader slowdown in green bond activity. However, certain segments, including carbon-neutral bonds and blue bonds, of the green bond market showed resilience and growth. The percentage of non-SOE issuers steadily increased, suggesting a broadening participation in the green bond market.
- 10. Stronger leadership in international green finance arena.** As China's green finance landscape become more complete and internationally-aligned, China is ready to play a more prominent role in standards setting and green overseas investment globally.

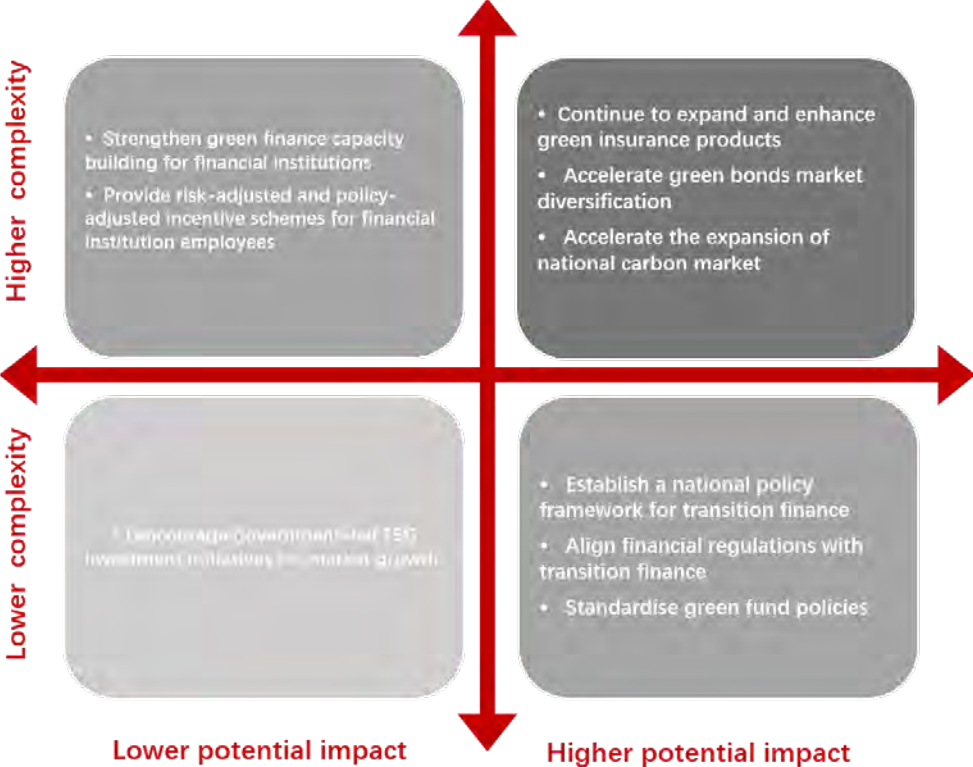
5. Barriers and recommendations to accelerate green finance in China

Green finance in China made significant strides in 2024, with notable policy advancements addressing previously identified barriers, such as an incomplete legal system and inconsistent disclosure requirements. However, several challenges persist:

1. The national policy framework for transition finance remains underdeveloped. While the *Green and Low-Carbon Transition Industry Guidance Catalogue (2024 version)* now includes low-carbon transition industries, dedicated transition finance standards exist only at the local level, leading to inconsistencies in implementation and evaluation across different regions. In addition, the absence of a unified national framework makes it difficult for financial institutions and investors to assess transition projects accurately, potentially hindering capital allocation to genuinely sustainable initiatives and raising the risk of "transition-washing".

- 2. The share of green assets remains limited.** Green loans continue to dominate the green financial market, accounting for 13 per cent of total outstanding loans by the end of 2024. Green bonds represent less than 1 per cent of total bond issuance. Innovative green insurance products struggle to scale. Green funds have yet to gain mainstream adoption. The limited availability of green financial instruments makes it challenging for financial institutions to offer tailored support to clients and for companies to find suitable financing options that meet their specific needs.
- 3. Financial institutions still face significant barriers** in internal organisation and capacity building. Their capacity for scenario analysis, stress testing, and carbon accounting remains insufficient, making it challenging to accurately measure climate-related risks and the long-term viability of green investments. The lack of standardised methodologies and reliable data further complicates the assessment process, especially for small and medium financial institutions.

Figure 6: Recommended actions for China's green finance development



Source: Authors.

Through an examination of China's green finance development and the identification of existing gaps, this study proposes the following recommendations for accelerating China's green finance development:

- **Establish a national policy framework for transition finance** by drawing upon principles outlined in the G20 Sustainable Finance Report and lessons learned from local pilot programs. For companies, clearly define eligible transition activities, verification standards, disclosure requirements, and penalties for non-compliance. This will provide a structured pathway for businesses to understand and implement transition strategies.
- **Align financial regulations with transition finance.** Revise restrictions on financial support for high-emission industries to tap the potential of financial institutions and integrate transition finance metrics into institutional green finance performance evaluations.
- **Standardise green fund policies.** Develop a unified definition, evaluation criteria and investment guidelines green fund.
- **Continue to expand and enhance green insurance products.** Encourage insurers to develop a wider range of green insurance offerings. Meanwhile, improve environmental risk assessment process while strengthening the use of technology to provide data support for the pricing and claims management.
- **Accelerate green bonds market diversification.** Encourage the participation non-SOE issuers with incentive measures and increase the share of long-term green bonds to provide stable financing for green projects.
- **Accelerate the expansion of the national carbon market.** Broaden market coverage by including newly proposed industries to enhance liquidity and market efficiency.
- **Strengthen green finance capacity building for financial institutions.** Encourage financial institutions to utilise technology for environmental data collection, climate risk assessment and quantitative disclosure of sustainability metrics. Enhance internal organisation and capacity building initiatives to improve ability to assess and manage green investments effectively.
- **Provide risk-adjusted and policy-adjusted incentive schemes for financial institution employees** to support the sustained growth of green financial markets (primary objective of employees) and de-facto green economic growth (indirect objective of employees) with different incentives for different levels of employees.
- **Encourage government-led ESG investment initiatives for market growth.** Use government funding to support ESG investment, initiate pilots in mature markets, and promote ESG fund growth. Standardise practices, establish accurate values, and increase investor engagement. Also, boost public understanding of green finance for market expansion.



Land-saving solar farms such as this, built on Gaoyou Lake, the sixth-largest freshwater lake in China. (Green Finance & Development Center)

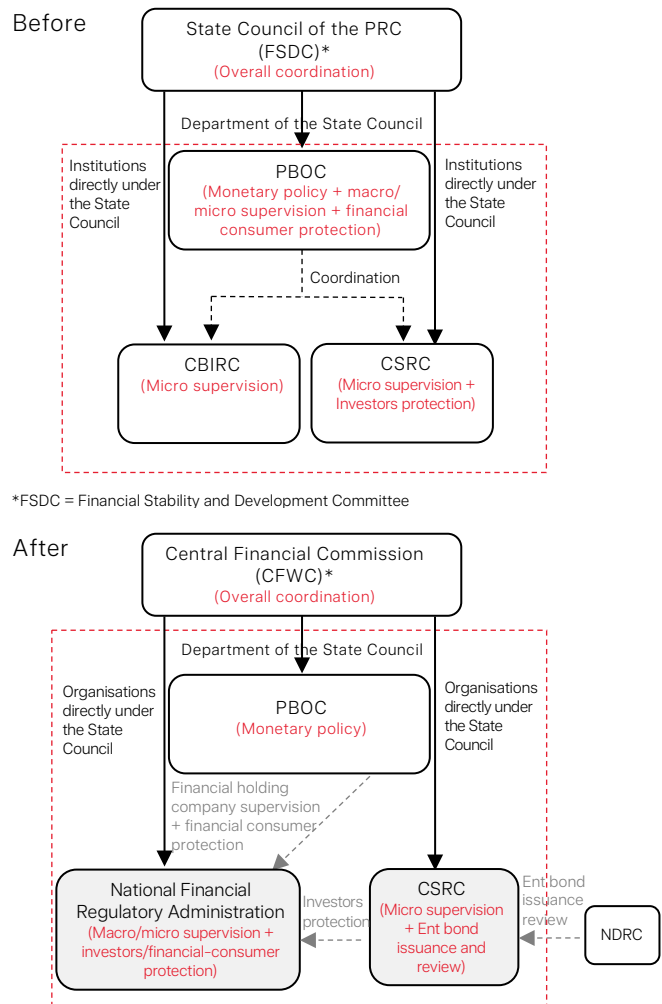
Annex 1: Overview of China's green finance governance

China's financial governance system is in a new structure since the significant transformation in 2023 (Figure 7):

- The newly-established Central Financial Commission (CFC) replaced the responsibilities of former Financial Stability and Development Committee, becoming the primary body for financial decision-making and coordination;
- The newly-established National Financial Regulatory Administration (NFRA) replaced the CBIRC and took on broader responsibilities. Meanwhile, dispatched agencies of NFRA would lead local financial regulatory framework;
- The People's Bank of China (PBoC) now concentrates on monetary policy and macro-prudential supervision, no longer overseeing financial holding companies. Its organisation was also streamlined.
- China Securities Regulatory Commission (CSRC)'s role as the capital market regulator has been enhanced by incorporating supervision of enterprise bond⁵⁸ issuance from NDRC into its purview, consolidating oversight of both enterprise and corporate bond⁵⁹ issuance.

Despite reforms in the financial sector, green finance governance in China still involves multiple ministries, including PBoC, NFRA, CSRC, the Ministry of Finance, the Ministry of Ecology and Environment, NDRC and the State-owned Assets Supervision and Administration Commission. The development of green finance in China is driven mostly by a top-down approach in the forms of issuing guidance policies, proving market incentives and setting up pilot zones.

Figure 7: China's financial regulatory regime before and after reforms



*FSDC = Financial Stability and Development Committee

*CFC = Central Financial Work Commission

Source: Jefferies/Reuters, developed/corrected by authors.

Provincial and city government offices support and partly implement national green finance policies through local DRCs (development of reform commission, the local level ministry of the NDRC), the Bureau of Finance, or the Bureau of Ecology and Environment⁶⁰. They also publish local policies based on national high-level policies for more targeted implementation.

On the sub-national level, two types of pilot zones have been established to explore replicable and

scalable green finance practices: *Green Finance Reform and Innovation Pilot Zone*⁶¹ since 2017, and *Climate Investment and Financing Pilot*⁶² since 2022. In August 2022, 23 climate finance pilot zones across China were approved. While some cities belong to both categories, the missions of climate finance pilot zones focus more on discouraging high-emission projects, developing carbon finance and carbon accounting.



About the authors



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Christoph regularly provides advice to governments, financial institutions, enterprises, and civil society on sustainable development issues. He is the lead author of the UNDP SDG Finance Taxonomy, the Innovative Climate Finance Solutions report for the G20 in Indonesia, and the Green Development Guidance of the BRI Green Development Coalition under the Chinese Ministry of Ecology and Environment. He has authored four books and published articles in Science and other leading journals. Christoph serves as a board director in scaling sustainability in businesses and finance.

Christoph is quoted regularly in *Financial Times*, *The Economist*, *Reuters*, *Bloomberg*, and other major outlets. Before joining Griffith University, he served as Founding Director of the Green Finance & Development Center and Associate Professor at the Fanhai International School of Finance (FISF), Fudan University and previously as Founding Director for the Green BRI Center at the Central University of Economics in Beijing. He worked with the World Bank in over 15 countries and was a Director in the German development agency GIZ. Christoph holds a Master of Engineering and a PhD in Economics from the Technical University Berlin, as well as a Master of Public Administration from Harvard Kennedy School.



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About Griffith Asia Institute

Griffith Asia Institute (GAI) at Griffith University, Brisbane, Australia, is an internationally recognised institute providing knowledge, and solutions for sustainable development in Asia-Pacific. With a history of over 20 years, GAI has forged strong partnerships with key decision-makers in business, policy and with research institutions across the region. With over 80 faculty members and 50 adjunct members, GAI works in multidisciplinary teams and draws on a wide range of technical expertise in energy, finance, policy, and economics as well as in regional studies including a strong China component.

GAI is led by Professor Christoph Nedopil Wang and is organised through knowledge and regional hubs:

The Green Transition and Sustainable Development Hub addresses major challenges and opportunities for Asian and Pacific economies in addressing SDGs related to climate, life on land, life in the sea, partnerships, infrastructure and energy.

The Governance and Diplomacy Hub addresses major challenges and opportunities in the region for peaceful co-existence, diplomacy, inclusive governance, policymaking and institution building.

The Inclusive Growth and Rural Development Hub addresses major challenges and opportunities in the region regarding currently underserved communities (e.g., women, indigenous, youth, rural, or people with disabilities).

The four regional hubs address major regional and country-specific challenges and opportunities in (1) Southeast Asia, (2) South Asia, (3) Pacific and (4) China and the Region, each with their own hub lead.

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About the Green Finance & Development Center

The Green Finance & Development Center (GFDC) is a leading research center that provides advisory, research and capacity building for financial institutions and regulators for green and sustainable finance in China and internationally.

The GFDC works at the intersection of finance, policy, and industry to accelerate the development and use of green and sustainable finance instruments to address the climate and biodiversity crisis, as well as contribute to better social development opportunities.

The topics of our work at the Green Finance & Development Center respond to the needs and developments of the financial markets and related policies in China and internationally, while we also aim to provide evidence-based advisory and research for future policies and strategies to accelerate the greening of finance in policy and practice.

The Green Finance & Development Center was founded in 2021 by Christoph Nedopil Wang. It is associated with the Fanhai International School of Finance (FISF) at Fudan University in Shanghai, PR China.

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